



NAVAL POSTGRADUATE SCHOOL

UPDATE

NPS

Naval Postgraduate School and Xerox Collaborate to Advance Additive Manufacturing Solutions

By Matthew Schehl

In January 2021, DOD published its first-ever [Additive Manufacturing Strategy](#) to “provide a shared set of guiding principles and a framework for [additive manufacturing] technology development and transition to support modernization and Warfighter readiness” across the military.

Additive manufacturing – more commonly known as 3D printing – is the computer-controlled process of creating three-dimensional objects by “printing” material, layer upon layer, to build up an item to the finest of detail. Whether creating a child’s toy or a sophisticated machine part, it is economical and efficient, employing a minimum of resources with a minimum of labor and time.

Already working on this, NPS recently established the [Center for Additive Manufacturing](#) (CAM), a campus-wide collaborative effort to coordinate research and advance 3D technology. Under the umbrella of CAM’s [Naval Additive Manufacturing Enterprise 2030](#) (NAME 2030) initiative, NPS explores every aspect of additive technology and the possibilities it presents the Navy.

One of the most promising of these is to better allow the supply of forward-deployed forces.

“The military supply chain is among the most complex in the world, and NPS understands first-hand the challenges manufacturers must address. This collaboration will aid NPS in pushing adoption of 3D printing throughout the U.S. Navy, and will provide Xerox valuable information to help deliver supply chain flexibility and resiliency to future customers.”

–Xerox Chief Technology Officer Naresh Shanker

A key element of NPS’ applied research in this area is the recently launched strategic collaboration between Xerox and NPS focused on additive manufacturing research, which has the potential to dramatically transform the way the military supplies forward-deployed forces.

As part of a Collaborative Research and Development Agreement (CRADA), NPS was the first to receive an installation of the [Xerox® ElemX™ Liquid Metal Printer](#) (LMP) on the university campus in December. The new LMP will provide NPS faculty and students hands-on exploration of new ways the technology can deliver on-demand 3D printing of metal parts and equipment from ship or shore, anytime or anywhere.

Read the [full story](#) and watch the latest episode of [Listen, Learn, Lead](#) discussing Additive Manufacturing.

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- p2 NPS Hosts Seapower Conversation with Tri-Service Maritime Strategy Authors
- p4 Nobel Prize Winning Physicist Discusses Quantum Reform of the Metric System
- p5 NPS-Led Research Reveals Greater Abundance of Life Under Arctic Ice
- p6 New NPS Graduate Certificate Program Provides History to Great Power Competition

Women’s History Month

March 2021

Seapower Conversation: NPS Hosts Discussion with Tri-Service Maritime Strategy Authors

By Matthew Schehl

Naval Postgraduate School (NPS) students and faculty recently had the opportunity to directly engage the primary architects of the nation's newly-published Tri-Service Maritime Strategy "[Advantage at Sea: Prevailing with Integrated All-Domain Naval Power](#)," gaining first-hand insight into the sea services' new strategic direction.

In a [virtual exchange broadcast on the NPS Live Streaming Channel](#) on Feb. 9, the lead authors of the strategy from the Navy, Marine Corps and Coast Guard directly involved in the document's creation discussed the vision of how, and why, the maritime services will more fully integrate, aggressively modernize and deepen ties with allies and partners over the next decade.

The discussion was produced by [NPS' Naval Warfare Studies Institute](#), the first in a series called Seapower Conversations, an ongoing dialogue series with strategic leaders to directly apprise students and faculty of emerging concepts, capability development efforts and global operations of the Navy and Marine Corps.

For these future Naval leaders of the 21st century, such knowledge is paramount observed NPS President retired Vice Adm. Ann E. Rondeau when welcoming the speakers.

"The foundation of our force development and design efforts and operations start with warfighting concepts: philosophically, why we fight and conceptually how we will fight," she said. "This is the North Star that guides everything else and therefore is incredibly important to get right."

Much has changed in the world since the previous maritime strategy, "A Cooperative Strategy for 21st Century Seapower," was published in 2015.

The People's Republic of China, the Russian Federation and other authoritarian regimes have embarked on a strategy of aggressively disrupting the free and open international order – a system which has provided the collective security and prosperity the United States has enjoyed since the end of World War II. Through malign actions which blur the lines between military and civilian, they actively and consistently seek to undermine alliances and partnerships throughout the world in order to upset the balance of power.

China and Russia have embarked on a period of almost exponential military growth and modernization, directly challenging American ascendancy. Over the last two decades, for example, China's naval forces have more than quadrupled in size, growing from approximately 150 to 700 maritime platforms, according to the Office of Naval Intelligence.



Lead authors of the Tri-Service Maritime Strategy, representing the U.S. Navy, Marine Corps and Coast Guard, discuss the vision, thought-process and challenges associated with the development of the comprehensive strategy developed to integrate Naval power across all domains of warfighting during a live broadcast launching the Naval Warfare Studies Institute's Seapower Conversations series. (Graphic developed by NPS' Office of University Communications)

Left unchecked, these trends will leave America's maritime services unprepared to guarantee our advantage at sea or protect our national interests within a decade.

Advantage at Sea meets these challenges head-on across the board, providing strategic guidance for the maritime services to prevail over a wide range of confrontation, from high-end conflict all the way down to the nitty-gritty of every-day competition side by side with our allies and partners.

"It's important to recognize that this is not a regional strategy," noted Capt. Matthew Culp, Deputy Director of Navy Strategy, OPNAV N7, leader of the effort to develop and draft the tri-service strategy. "This is a global look at everywhere that naval forces operate. This is a global competition with China and Russia, where fundamentally we see the free and open international order being challenged. This is not just military competition – they're using all dimensions of national power and increasingly so."

Alliances and partnerships are our key strategic advantage in meeting this global threat, he said, providing an asymmetric advantage across a continuum of competition."

"You need all kinds of assistance to maintain maritime security. You've got long logistics lines you need to secure; you need to deter opportunistic aggression," he said. "This is not a bipolar problem. This is a multipolar world now. Alliances and partnerships help do all of that in a high-end conflict and, most importantly, this network helps build deterrence and capability that we can't do alone."

(Continued on page 3)

Seapower Conversation: NPS Hosts Discussion with Tri-Service Maritime Strategy Authors (Continued)

Engaging in a range of collective actions, from developing interoperable military capabilities to civilian capacity-building, will serve to strengthen powerful bonds with like-minded nations, he added.

At the same time, the Naval Services – the Navy, Marine Corps and Coast Guard – must also deepen the way they work amongst each other, according to Advantage at Sea. The strategic guidance calls for the three services to integrate their respective capabilities, capacities, roles, investments and authorities in order to optimize their collective strength.

A dedicated effort to work and train together will yield a whole greater than its constituent parts in successfully meeting the global challenges of the new security environment, according to Col. Robb Sucher, National War Plans Branch Head and Strategy Branch Head at Plans, Policies and Operations, Headquarters, Marine Corps. “We want to make sure we’re really capitalizing on the strengths that we all bring together,” he said. “This is certainly something that in our day-to-day we really need to do well and we need to do often. This is going to take years to make sure that we’re incredibly proficient, but it’s something we need to do.”

Working as a whole, this synchronization will enable an All-Domain Naval Power able to triumph through any realm, from the depths of the seas to outer space, across the world’s oceans and shores, and throughout the cyber domain and electromagnetic spectrum.

“This concept of integration is really, as you look at a resource-constrained environment, to put the right assets against the right threat at the right time,” explained Cmdr. Kate Higgins-Blum, Strategic Foresight Director at the Coast Guard’s Office of Emerging Policy. “The Coast Guard should really be specializing and leaning in where it has the competitive advantage, which enables the Navy to invest where it needs to invest, the Marine Corps to invest where it needs to invest, and then synchronize this to really address both the global threats that we face and recognize those focused regional challenges. The end result would be to expand our ability to really operate across the continuum of competition.”

While the Pentagon was focused on the Global War on Terrorism, the maritime security environment has clearly changed, Culp said, with the proliferation of advanced sensors and long-range precision weapons by our adversaries, making surveillance, anti-area access and denial much more effective for the adversary.

“For many years we’ve imagined the seas as these huge strategic moats for the nation and largely opaque areas for us to operate,” he said. “It’s not that sea control is important when it wasn’t before; we’ve just been able to assume that we had it, but now it is contested.”

“Sea control becomes the cost of entry for doing all of our other missions,” Culp continued. “In order to project power, in order to maintain maritime security, in order to conduct sealift, we need to maintain sea control.”

To maintain that effective sea control, it will be necessary for the

Naval Services to undergo significant modernization efforts, a topic of frequent discussion across the U.S. defense and political landscape.

Sailing at the dawn of a new era – the Cognitive Age – will see intelligent systems, big data, machine learning and artificial intelligence increasingly augment human activity and decision-making. Maritime forces will therefore require new platforms, new thinking and new technologies to meet these new challenges.

Enhanced distributed operations, smaller ships, lighter amphibious ships, updated aircraft, expanded logistics, resilient space capabilities, and integrated manned and unmanned systems will all need to be incorporated into the sea services over the next decade.

The Navy, according to Advantage at Sea, will have to prioritize lethality, capacity, readiness and expeditionary logistics over sustaining legacy capabilities; the Marine Corps modernization over force-structure size; the Coast Guard readiness, capacity and future capability over legacy capability.

This does not mean, however, that current systems should go by the wayside. Realistically, Culp noted, a large portion of the fleet of 2030 is afloat today.

“The hybrid fleet is going to be a mix of existing platforms and these future platforms as they come down the pipes,” he said. “It’ll be a combination of all those things, so what we are trying to achieve right now is to find the right balance, to optimize that blend right now and come up with the correct platforms.”

This requires investment in the most powerful platform the United States can bring to the table: the human mind.

Sailors, Marines and Coast Guardsmen must be prepared to be agile and adaptive in an era of complex, rapidly changing operating environments replete with cyberattacks, electromagnetic spectrum denials, swarm attacks by small, unmanned aerial vehicles and other challenges yet evolving. If the lights go out, creative people will be needed who are capable of making independent decisions in the dark.

“For institutions like the Naval Postgraduate School, where you have people with this incredible technological savvy and creativity, that’s where the intellectual horsepower is going to come from to solve these problems,” Culp said.

“I would challenge everyone at the Naval Postgraduate School that this is the work of analysis and wargaming,” he said. “It’s very important to do a lot of that sort of stubby pencil work over the next five years or so. Let’s get the right blend of this. Let’s solve these networking problems. Let’s find a way to integrate our forces, to build these compatible systems.”

“We really need to get this right in this decade,” Culp added.

Watch the [complete Seapower Conversations discussion](#) with the Tri-Service Maritime Strategy authors on the NPS YouTube Channel.

Nobel Prize Winning Physicist Discusses Quantum Reform of the Metric System

By MC3 James Norket

Nobel Prize recipient Dr. William Phillips, a pioneer of atomic timekeeping used by the Navy, spoke virtually to Naval Postgraduate School (NPS) students, faculty and staff on the topic of “[Quantum Reform of the Metric System](#)” and how the frontiers of metrology are important to the Navy during the latest Secretary of the Navy Guest Lecture (SGL) series, Feb. 16.

Over the years, Phillips has conducted extensive research at the National Institute of Standards and Technology (NIST), earning him the Nobel Prize in Physics as the leading researcher in the laser cooling and trapping of atoms, leading to new kinds of physics measurements and processes such as high-resolution spectroscopy, atomic clocks, atom optics and atom interferometry. Funded in part by the Office of Naval Research (ONR), Phillip’s work yielded many relevant Naval applications, in particular precision timekeeping, navigation and quantum information.

During the lecture, Phillips spoke on several modern advances in the world of metrology and physics. He explained, as he called it, “the biggest innovation since the French Revolution in measurement.”

“The nature of that revolution was that the international system of units, the modern metric system, was changed in a dramatic way,” said Phillips. “The international system of units bases all measurement on seven base units, the kilogram, the meter, the second, the ampere, the kelvin, the mole and the candela. And today, all of those base units are now defined by fixing values of fundamental constants of nature.”

One change that directly affected the Navy was atomic timekeeping. Now, instead of using a traditional timekeeping method, the United States uses atomic clocks to more accurately navigate the Earth.

“The reason atomic timekeeping is so important is because it improves the accuracy of satellite navigation systems,” said Phillips. “By receiving signals from those atomic clocks, ships at sea, aircraft and ground-based operations can tell not only what time it is, but where they are anywhere on the face of the Earth to within a few meters, almost instantaneously. This is huge for the Navy and huge for not just the rest of the military, but the civilian sector as well.”

Phillips believes that he will continue to work closely with the U.S. Navy and military writ large.

“We’ve concentrated here about how important measurement is

for the military,” continued Phillips. “We haven’t exhausted that at all. If you think the military isn’t interested in electrical measurements, think again. This is really, really important. And so, bringing the electrical measurements into this unified system and making measurements absolute and straightforward is really important throughout the military.”

After his prepared remarks, Phillips spent time answering questions from NPS students who asked about fundamental constants, agreement within the scientific world on measurement standards, and validity of other scientific timekeeping methods.

U.S. Navy Lt. Nathan Redder asked, “How certain are we that fundamental constants remain constant after billions of years?” To which Phillips replied, “I believe a constant [with physical dimensions] will remain the same because it has been defined already, and we should be thinking about [dimensionless] constants as possibly changing. But there are smart people who I respect who disagree with me, and there is still room for discussion about this.”

Another student, U.S. Navy Lt. Sasha Barnett asked about the struggles that Phillips and his peers have faced trying to get the world to agree on measurement standards. Phillips responded by saying, “It wasn’t easy. We had to get the United States, China, Russia, England, India, Pakistan and multiple other countries to agree, and they all did. I think that is a testament to scientists from around the world who came together and agreed on something. I think it also gives us hope for the future.”



Nobel Prize recipient Dr. William Phillips spoke virtually to students and faculty, Feb. 16, on Quantum Reform of the Metric System during the latest edition of the Secretary of the Navy Guest Lecture (SGL) series. (US Navy Graphic by MC2 Nathan K. Serpico)

NPS-Led Research Reveals Greater Abundance of Life Under Arctic Ice Than Previously Thought

By Rebecca Hoag

For the longest time, scientists have written off there being much life below the Arctic sea ice. Surely not enough sunlight would be able to get through the snow and ice to sustain an abundance of life. Additionally, satellites can't see through the ice, and it was difficult for scientists interested in investigating this further to get out to the Arctic during the winter and spring – when the percent of Arctic ocean iced over was the highest – because most Arctic expeditions wait until there's thinner ice so icebreakers can move through.

According to the Department of the Navy's recently-published Arctic Strategy, "Progress is not possible without pushing the boundaries of science and technology." And an innovative research effort funded by the National Science Foundation and U.S. Dept. of Energy, led by researchers at the Naval Postgraduate School (NPS), is definitely pushing the boundaries of those long-held assumptions about just how much life is under the Arctic ice.

Researchers at NPS have a long history of innovative research in the Arctic and Antarctic regions. University faculty were direct contributors to the Navy's Arctic Road Map released in 2014, students are frequent participants in the Navy's ICEX exercise, and several faculty have partnered with the Office of Naval Research on a wide range of research projects.

Employing innovation and advanced computer modeling techniques, an NPS research team led by Oceanography Professors Jaclyn Clement Kinney and Wieslaw Maslowski modeled Arctic under-ice primary production from 1980 to 2018. The results of their effort showed a greater abundance of life under Arctic ice than previously thought, mostly in the form of single-cell plants (or phytoplankton) called diatoms. Their findings were published in the *Journal of Geophysical Research - Oceans* in August 2020.

The team, including NPS professor Younjoo Lee, former NPS post-doc Marina Frants, and several outside collaborators, modeled what is most likely under the ice bio-physical environment. They then compared their model's results with actual data provided by the few excursions who did get samples. (Scientists estimate phytoplankton based on the level of chlorophyll-a in the water.)

"It's really quite a simple idea and sometimes, I think, the best science ideas are simple and straightforward," Kinney says.

The idea might have been simple, but the implementation was anything but. It took a multi-institutional team and years of research time to develop, evaluate and tune the model, the Regional Arctic System Model (RASM). RASM has been designed and used to simulate "the physical and biogeochemical environments at high-resolution over multi-decadal time scales," according to Maslowski.

Among its many applications, the model has been used to replicate phytoplankton blooms under the ice, and how these blooms have



The Navy's Arctic blueprint, released in early 2021, continues to demonstrate the strategic importance of the region. With deep expertise in the Arctic, NPS researchers are making critical discoveries about the region, and challenging longtime assumptions including those about life blooming beneath the ice. (U.S. Navy photo by MC1 Michael B. Zingaro/Released)

changed seasonally and interannually. Such a research program required large allotments of high-performance computing resources, which were competitively secured through the DOD's High-Performance Computing Modernization Program (HPCMP).

Their model's results matched well with limited data collected in different parts of the Arctic ... There is more life tingling under the ice than previously thought. The study found the majority of Arctic pelagic primary production takes place in areas at least half covered with ice. Unsurprisingly, the plankton population is at its peak during the summer when the Arctic experiences the most sunlight and nutrients are still abundant.

The model also found that under-ice primary productivity has increased over the past decades. Kinney concludes this is most likely the result of an increase in the photosynthetically active radiation in the water driven by changes in surface reflectivity from the thinning ice and melting of snow on the ice.

Scientists are also interested in the bountifulness of these microscopic plants because ocean phytoplankton are the base of the food chain and make up about half of the Earth's natural carbon drawdown (how much carbon dioxide the planet can store).

"We need to understand the rate of carbon uptake and its total budget in the Arctic to diagnose its change and trends, as well as its contribution to and impact on global warming," Maslowski explains.

The team hopes this research could lead to more predictive capabilities into the Arctic's biogeochemical and physical environments, including prediction of snow and sea ice melt and open water phytoplankton blooms.

New NPS Graduate Certificate Program Provides Context, History to Great Power Competition

By MC2 Nathan K. Serpico

Four weeks into the first course of a brand-new distance learning graduate certificate program in Great Power Competition (GPC) at the Naval Postgraduate School (NPS), and 31 Navy and Marine Corps students are already recognizing the role of the program in understanding the deeper, strategic implications of GPC.

With the recent release of the [CNOs Navigation Plan 2021](#) and the [Tri-Service Maritime Strategy](#), NPS is continuing to advance GPC programs across the virtual and physical campus. In addition to the new program, recent events like the virtual Secretary of the Navy Guest Lecture with the former commander of U.S. Strategic Command retired Adm. Cecil Haney on the subject of “[Great Power Competition in the Cognitive Age](#),” and an additional maritime security certificate focused on maritime domain challenges, are leading to a full spectrum of GPC-related educational opportunities.

“The GPC DL Certificate is well-situated to respond to recent strategic documents that are all centered around the DOD’s strategic shift to GPC,” said Cmdr. Paul Rasmussen, National Security Affairs (NSA) Department Program Officer, “particularly in educating the leaders charged to develop and execute this strategy.”

Within the GPC certificate program, the NSA Department included an education skill requirement aimed at “analyzing the factors shaping the new era of increasing geopolitical competition among the major powers” and “understanding Chinese and Russian activities and potential U.S. response across all dimensions of power, including diplomacy, economic competition, influence campaigns and traditional military force.”

According to U.S. Marine Corps Maj. Shane Kraft, an NPS DL student serving as the Executive Officer for Marine Unmanned Aerial Vehicle Squadron (VMU) 3, the course has offered him an opportunity to analyze the history behind current global contention, which has improved his understanding of strategic relationships in the modern world.

“I feel that pursuing a comprehensive understanding of global, geopolitical interactions is important for any servicemember, and this curriculum is an opportunity to develop that knowledge,” said Kraft.

While the term “Great Power Competition” can cover a wide spectrum of topics, program organizers have developed a curriculum for students to understand the nature of GPC historically, as well as its current dynamics. The objective is to have students learn and understand the core motivations behind peer adversaries, like China and Russia, and the political, economic and defense challenges they present. The various courses will analyze the tools China and Russia use to further their interests in various regions of the world and in cyberspace, as well as discuss the range of possible U.S. and allied responses to peer-nation behavior.

As a microcosm of NPS as a whole, the core goal of the curriculum is to deepen the critical-thinking skills of its military officer students.



A new graduate certificate program in Great Power Competition (GPC) at the Naval Postgraduate School (NPS) is providing the initial cohort of 31 Navy and Marine Corps students with the history and context of GPC, supporting a deeper understanding of its strategic implications. It’s just one of several GPC-related programs now in campus. (Graphic by NPS Office of University Communications)

“I am often exposed to aspects of Great Power Competition in briefs, discussions, and training, so I thought it would be professionally enhancing to pursue a broader and deeper understanding of the topic,” noted Cmdr. Sean Welch, an NPS DL student serving at Commander, Submarine Squadron 15.

“At my current command, the information from the course will help me add to any discussions, training, or briefs on the current GPC environment,” he added. “At my next command, it will help me lead those discussions.”

In today’s digital age, it’s imperative for leaders to stay current as information can change and spread throughout the world in a few clicks of a keyboard. For leaders who consistently deepen their understanding of GPC and allow their subordinates to follow suit, the program helps them to lead a more adept crew ready to respond.

“As a senior officer, this broader understanding of great power competition is foundational for understanding and acting within today’s strategic environment,” said DL student Navy Capt. Chris Cavanaugh. “In my situation as the Submarine Force officer community manager,” Cavanaugh explained, “participating in an NPS distance learning program is giving me a firsthand perspective on how best to integrate advanced education opportunities into officer career paths.”

Due to a strong demand, Rasmussen noted that NPS is offering an [in-resident version](#) of the GPC Certificate. The course is slated to begin in the upcoming Spring Quarter with registration already open.

The next cohort for the DL version of the GPC Certificate is set to begin in July with the hope of opening up the program to Air Force and Army active-duty personnel, as well as DOD civilians. For more information on the program, and to submit an application package, contact NSA Program Officer Cmdr. Paul Rasmussen at nsaprogramofficer@nps.edu.

NPS Expands Coursework in Great Power Competition, Focused on China

By MC2 Tom Tonthat

NPS is expanding its graduate education offerings on the subject of Great Power Competition (GPC). NPS' Department of National Security Affairs (NSA) will launch two in-resident courses next year focused on the People's Republic of China that will allow military officers and DOD civilian employees to deepen their understanding of this peer nation in today's strategic context.

The Chief of Naval Operations' (CNO) [NAVPLAN 2021](#) reports that China is the United States' most pressing long-term strategic rival in the space, sea and information domains, and is aggressively building a navy and worldwide infrastructure not to just rival the U.S., but to eventually exert control of critical waterways. Therefore, these two courses, "Science, Technology and Society in China" and "People's Liberation Army" (PLA), will help students grasp China's history and what may be behind some of its political, economic and defense motivations.

"China is becoming a leading scientific and technological power," said Assistant Professor Dr. Covell Meyskens, who will teach the science and technology course. "It is imperative that the United States gain a better understanding of China's goals, the challenges that China faces in realizing its aspirations, and the consequences that Chinese technological and scientific developments are having for both China and the world."

"Students will obtain a solid understanding of the major drivers of scientific and technological change in Chinese history as well as a critical comprehension of major scientific and technological issues in contemporary China," Meyskens added. "With this knowledge base, students will be better equipped to address the many challenges that China's rise as a technological great power pose for the United States and our allies around the world."

The CNO NAVPLAN also reports that People's Liberation Army – Navy is deploying jointly with the Chinese Coast Guard and Maritime Militia creating challenges for regional nations. NSA Senior Lecturer Dr. Michael Glosny will teach the "People's Liberation Army" (PLA) course, scheduled to begin in early 2022, which will examine the origins and historical development of the PLA and its modernization over the last two decades.

"[Great Power Competition] challenges include

economics, politics, ideology, and the military," said Glosny. "In the NSA curriculum, we already offer courses on Chinese foreign policy, politics, economics and history. As PLA modernization has deepened, in consultation with OPNAV, we have recognized that we need to provide our students more opportunities to learn about the PLA and its implications for security and stability of the United States and its allies and partners in the Indo-Pacific."

Glosny said the course will offer students a deeper understanding of the PLA organization such as its military strategy, capabilities, roles and missions, and its future trajectory. Students will also examine weaknesses and shortcomings in the Chinese military that the U.S. could leverage as an advantage in addition to discussing possible U.S. and allied responses to PLA modernization.

"This course on the PLA focuses better understanding the behavior and mindset of our adversaries," said Glosny. "Deeper knowledge of our peer nations like China is essential to 'instinctively act inside their decision cycles,' as the 2021 NAVPLAN suggests."

Meyskens and Glosny noted that, as a military institution, aligning education to give a better understanding of peer-nation competitors is vital. Understanding China's efforts to transform itself in science and technology, as well as its military into a maritime great power is to be better equipped to adapt to it.

Both courses will contribute to NPS' 682 Security Studies - East Asia degree program and are being developed to potentially be offered as part of the [Distance Learning Great Power Competition Certificate program](#).



NPS' Department of National Security Affairs (NSA) is developing two in-residence courses to provide military officers and DOD civilians with strategic context to peer competition with China. (Courtesy asset)

CAMPUS news & notes

With the recent release of the [Tri-Service Maritime Strategy Advantage at Sea](#) and the [Chief of Naval Operations \(CNO\) Navigation Plan](#) – strategies for the Navy to project power and sea control amid competition – NPS is building a new in-resident maritime security certificate program to further educate our international naval officers on maritime domain challenges.

NPS' School of International Graduate Studies' (SIGS) new certificate program will focus on multiple aspects of maritime security, including strengthening relationships with allies and partner countries with both international and U.S. students at NPS learning together. The program is scheduled to commence in the 2021 Fall Quarter.

The certificate will consist of a new Maritime Security Cooperation course, which will provide the theory and practice of global maritime security operations, as well as include two existing courses, such as Great Power Competition: Current Policy and Strategy, and Security Sector Assistance in an Era of Great Power Competition. Students may also choose from an approved list of courses focused on regional security in one part of the world where maritime security is a crucial issue.

"This program is going to help those international partners and international students interact and interface with us better throughout our own defense complex," noted U.S. Navy Capt. Sean Hays, SIGS Military Associate Dean. "It's also going to help our officers build those bridges to work with their international counterparts as partners and allies. This course will make those international naval connections easier and smoother early on and help make them last for the length of all of these officers' and students' careers."

Send your campus news and notes to update@nps.edu.

Systems Engineering Capstone Competition Develops Real Solutions to Real Challenges

By Javier Chagoya

The Naval Postgraduate School's (NPS) Systems Engineering Management (SEM) programs held their latest Outstanding Capstone Project Award competition, with four teams of students developing challenging solutions to real-world problems in their efforts to take top honors.

The competition is the culminating event of the SEM (522), and SEM - Systems and Program Management (722) curricula, each 18 months long with six months spent in part on the capstone project. The student teams focus on finding solutions to specific problems posed by real commands . . . This year, the Army Research Lab – West Point, the U.S. Naval Academy, U.S. Army PEO Soldier and the Joint Special Operations Command (JSOC) submitted the challenges.

To select the top team for the award, an in-depth analysis by a judging panel evaluates each team based on the the value and impact of their study to the primary stakeholder, as well as the application of concepts and techniques promoted in the curricula.

This year, the student-team consisting of U.S. Army Maj. Ted Cha, Chris Wimsatt and Ray Ybarra, and Army Capt. Blake Davis, Zachariah Shutte, and Douglas Snodgrass took top honors for their work on a solution to JSOC's submitted challenge of evaluating gaming engines for mixed reality visualization applications.

Essentially, the team helped JSOC analyze and research an appropriate gaming engine that will help create a mixed reality (MR) environment for visualizing an operating environment prior to mission execution. Procurement depends on the pool of commercially-available engines. As such, JSOC required a systematic, data-driven approach for selecting the appropriate engine.

“Every project that the faculty present to students is based on a real-world problem that an actual customer has posited,” said Associate Professor and retired Army Col. Andy Hernandez. “To be viable, the capstone project requires students to use newly-gained skills and their own practical experience [to create] credible, defensible solutions near real-time.”

Based on JSOC's needs, the team needed to develop a structured approach to assess different MR gaming engine alternatives. Using multi-objective decision analysis and additive value modeling, the research team produced a credible, repeatable, traceable selection process to compare alternatives.

“A critical part of the study saw the team combine theory and their own operational experiences to map quantifiable system attributes to value functions,” said Hernandez. “The results provided JSOC a means to compare different gaming engines under a common value scale. While the methodology was developed specifically for the [mixed-reality] gaming engine, the mathematical foundation that

the team built was robust enough to apply to different systems that JSOC may examine in the future.”

According to Wimsatt, both the curriculum and the competition have given him an advantage as he enters the Department of Defense acquisition community.

“Spending 18-months in a culture that lives and breathes systems engineering tends to shape individual perspective on the acquisition process,” said Wimsatt. “The SEM curriculum taught at NPS is directly applicable to DOD's acquisition community. It will help us meet our obligations to the warfighter by delivering a great product, and to the American taxpayer by acquiring the right item the first time.”

“An operationally-relevant contribution is what the capstone projects aims to achieve,” added Hernandez. “The SEM capstone project is a tangible and essential link between academia and the operational environment to which all students will return.”

NPS' Systems Engineering Management programs (curricula 522 and 722) are interdisciplinary, combining systems engineering with acquisition management knowledge and skills. The program is intended to broaden the technical capabilities of officers who may have non-technical backgrounds, so they are better able to manage and lead acquisition programs for the increasingly complex combat systems that the DOD needs.



NPS students Army Maj. Ted Cha, left, and Chris Wimsatt represent the winning team of the Systems Engineering Management program's Outstanding Capstone Project Award competition. The team provided the Joint Special Operations Command with a critical solution to evaluating mixed-reality visualization technologies. (US Navy photo by Javier Chagoya)

NPS Regional Security Program Prepares Deploying Forces, Surpasses Milestone

By MC3 James Norket

For more than two decades, the Naval Postgraduate School's (NPS) Regional Security Education Program (RSEP) has provided leading subject matter experts to deploying forces in transit delivering on-site, graduate-level briefings on regional issues and challenges, historical and security context, and cultural sensitivities in Combatant Commanders Areas of Responsibility (AOR's) and regions where our forces will operate. From carrier strike groups to SEAL teams, the RSEP program has delivered briefings and critical lectures to more than 500,000 Department of Defense participants worldwide as well as international allies and partners operating with our deployed Naval Forces.

The program was created in the aftermath of the events on Oct. 12, 2000 – a date that many Sailors will never forget. On that day, the USS Cole (DDG 67) docked in Aden, Yemen for a routine fuel stop. Not long after mooring, a small fiberglass boat carrying C4 struck the side of the ship, creating a 40-by-60-foot gash in the hull, killing 17 Sailors and wounding 37 others. The attackers were later identified as part of the terrorist organization al-Qaeda.

Then Chief of Naval Operations (CNO) Adm. Vern Clark asked all of his flag officers in the fleet how they could prevent anything like this from ever happening again. The Naval Postgraduate School had an answer: RSEP.

“When we first started the program in 2001, almost nobody could even spell al-Qaeda,” said retired Rear Adm. Steve Loeffler, fleet operations director for RSEP. “Now it is the life's work of our professors and subject matter experts to be well informed on every issue, challenge and threat imaginable in their areas of expertise and deliver that knowledge to our deploying forces.”

As for today's era, the recently published Tri-Service Maritime Strategy, which aligns the U.S. Navy, Marine Corps and Coast Guard to achieve “advantage at sea,” and the recently announced CNO NAVPLAN, calls for the Navy to contribute to regional security, and operate interchangeably with key allies and partners, are both necessary to attaining that advantage at sea.

Supporting these strategies, NPS has a network of 350 subject matter experts from across the country who specialize in different regions of the world. Dr. Wade Huntley, academic director for RSEP, is responsible for assembling the right group of people to brief deploying units.

“The program is there to support the interest of deploying Naval forces,” said Huntley. “Regardless of where the unit is heading, we will have a team ready to tell them everything they need to know about their area of operations.”

For example, RSEP has become a mainstay of “Academic Week” for deploying SEAL Teams. Whether teams need briefings on ISIS/al-Qaeda operations and other terror networks in the Middle East and North Africa, or Great Power Competition between nations in certain regions, or U.S. bilateral agreements in Southeast Asia and the South Pacific, RSEP will focus the discussion on where each force element will deploy.



Retired Rear Adm. Steve Loeffler, Senior Lecturer and Director, Regional Security Education Program (RSEP) briefs crew members onboard the USS Nimitz (CVN 68) about cooperative engagement and strategy in Dec. 2019. Although COVID has temporarily changed RSEP's delivery, the program continues to benefit deploying forces, recently surpassing 500,000 total participants. (Courtesy photo)

“This is what we do,” said Huntley. “We create briefs about potential threats and regional challenges in areas of operations and provide them to anyone who will listen. We want our fleet to be prepared for anything.”

In a pre-COVID environment, the RSEP team would create dozens of briefs and then travel with deploying units and inform senior enlisted and officers on regional issues and challenges in the area of operations during their deployments.

“When we go aboard a ship, we might have a list of between 25-40 briefs that we offer and then we try to give all of those briefs over the course of their transits,” Loeffler explained. “During that course of time we would have given literally each of the lectures probably 5-10 times. We want to make sure they are prepared to accomplish the mission at hand.”

COVID-19 has certainly had an impact on how RSEP accomplishes its mission. While unable to travel with deploying units due to COVID-19, the team now prepares dozens of briefings and pre-recorded lecture videos that they send out and let the commanders, Sailors and Marines aboard organize the briefs. Recent feedback from deployed strike groups, cruisers, destroyers and amphibious ships has been very positive as they use RSEP DVD's to educate and train Sailors and Marines of all paygrades. Similarly, symmetric briefs via collaboration tools with Selective Reserve units from around the fleet have resulted in comments such as, “Best drill weekend in years!”

“RSEP is the greatest and largest outreach program that NPS has ever had,” Loeffler noted. “Not only are we educating the fleet, but we are getting the word out about how important NPS really is to the Navy and Marine Corps.”

DOD Selects NPS to Advance Research in Environmental Resilience and Surprise

By MC2 Taylor Vencill

The Department of Defense's (DOD) Strategic Environmental Research and Development Program (SERDP) has awarded the Naval Postgraduate School (NPS) funding to begin a new research project, titled "Advancing Resilience Theory and Tools to Combat Environmental Surprise," focused on developing new theory and tools to better understand and prepare for future climate events that present challenges to military installation operations.

SERDP is the DOD's environmental science and technology program coordinated in partnership with the Department of Energy and the Environmental Protection Agency, with participation by numerous other federal and non-federal organizations. SERDP invests resources across a broad spectrum of applied research and development.

"Despite best practices for robust design, military infrastructure remains vulnerable to natural disasters, extreme weather and hybrid attacks," said Dr. David Alderson, Director of NPS' Center for Infrastructure Defense and Principal Investigator for the new SERDP-funded project. "The acute impacts of natural disasters like hurricanes, floods, fires and even cold weather pose a constant threat to mission readiness. The events in Texas over the last week demonstrate how something as simple as extended cold can wreak havoc on critical infrastructure systems."

SERDP is allocating \$2.4 million over the next four years to NPS to find solutions to decrease environmental impact, such as natural disasters and climate change on the battlefield. The interdisciplinary project will involve several researchers across the NPS campus, as well as collaborators at Arizona State University.

"This project is important because there is growing recognition within the DOD for the potential of climate-change related events

to affect operations, readiness and missions," noted Alderson. "To date, there is a lack of understanding and tools for combating these surprise events."

The research is organized in three integrated thrusts focused on the development of theory and frameworks for measuring resilience, advances in novel tools for simulating surprise, and experiential learning with wargaming and case studies.

According to Alderson, "Guidance for managing military infrastructure currently follows principles of reliability and risk, but these are based on knowledge of past events. They are not suited to adapt to dramatic change or future surprising events. For this reason, there is a need for new theory that links sensing, anticipating, adapting and learning processes with established theories of surprise from military history and the intelligence community."

Another key element of the overall project is to develop tools for education and training that provide a platform for investigating how military practitioners respond to surprising climate stressors. A key element of the proposed work is a sandbox-style virtual world called "Dystopia"—initially created at the NPS Center for Homeland Defense and Security (CHDS)-- suitable for supporting novel training and wargaming capacities to assess and improve expertise in responding to surprise events.

Alderson noted that this project will provide a platform within DOD education to support NPS students in their master's theses researching resilience and surprise that should lead to additional direct impact on DOD operations as they graduate and re-enter their respective services.

"This research addresses the explicitly-stated need to improve the environmental performance of DOD, support the long-term sustainability of DOD's installations and ranges, and significantly reduce current and future environmental liabilities," said Alderson.

Alderson believes development of the Dystopia tool will also leverage longstanding work at NPS to train experts in homeland security and reach broader classroom and operational settings.

"The broader DOD community will also benefit as the project team will target experiential learning at military officers and government employees," he noted. "Finally, advances in Dystopia will be made shareable and extensible to enable open-source methods for studying resilience in non-military settings."

Together, this project aims to advance a deeper understanding of resilience while building the tools and methods to assess and improve resilience across military installations.



Through funding awarded by the DOD's Strategic Environmental Research and Development Program, the Naval Postgraduate School will begin research focused on developing new theory and tools to help us understand and better prepare for future climate events that challenge military installation operations. (U.S. Navy graphic by MC2 Nathan K. Serpico)

MCSC, MCTSSA 'Utilize' NPS graduates

By Amy Forsythe, Marine Corps Tactical Systems Support Activity

Many of the officer billets at Marine Corps Systems Command and Marine Corps Tactical Systems Support Activity are filled with Marines who recently graduated with a master's degree from Naval Postgraduate School, located in Monterey, California.

When Marines complete their program at NPS, they receive orders to a new command and begin a three-year utilization, or pay-back tour, as part of their four-year commitment for continued military service.

According to Marine Corps Order 1524.1, NPS is the primary source of graduate education for the Navy and Marine Corps. "Its naval-focused curricula are central to the development of a resilient, knowledgeable and adaptable professional force. Each program is specifically designed to match educational skill requirements with the knowledge, skills and abilities required by the major area sponsor."

Many of officers are working in a new career field and applying highly technical skills needed to support certain specialties. The Marine Corps has been sending officers to NPS for several decades and in recent years began sending enlisted Marines to fill critical gaps needed by the naval services.

Marines come from a wide variety of fields and, upon graduation, will obtain an additional military occupational specialty, ranging from Operations Analysts (8850), Data Systems Management Officers (8848) Electrical Engineers (8824) and Computer Scientists (8846) and Space Operations (8866). Graduates fill critical roles in ever-changing and emerging fields throughout the Marine Corps.

Many people often mistake attending NPS as a retention tool for the Marine Corps, but Col. Randy Pugh, senior Marine representative and associate Dean of Research at NPS, explains that the program is actually designed to make Marines more capable as warfighters and to serve the evolving needs of the Marine Corps in the areas of science, technology, engineering and mathematics (STEM) space systems operations, computer science, operations research, electrical engineering, information and electronic warfare.

"Completing NPS and earning a master's degree teaches students things they would never get through normal experiences in the fleet or field," said Pugh. "Students leave NPS with knowledge and skills that are different than their peers who did not come to Monterey."

There are nearly 1,300 students enrolled year-round at NPS. The student body consists of personnel from the five uniformed services, officers from approximately 30 partner countries and a small number of civilian federal and state employees.

Most NPS technical degree programs last two years. Once students graduate, they receive orders to serve in specific billets spread across

78 different organizations and at 30 separate bases and stations. Upon graduation, students report to their new commands and begin working in their new roles in the 88XX fields.

MCSC, located in Quantico, Virginia, and MCTSSA, located at Camp Pendleton, California, have 60 billets for Marine officers that are fulfilling utilization tours in various roles.



Maj. Ryan Keller was awarded the Rear Adm. Grace Murray Hopper Award for outstanding academic and leadership accomplishments in the study of Computer Science in September 2019 while attending Naval Postgraduate School. Keller graduated with a Master of Science degree in Computer Science in 2019 and currently serves at Marine Corps Tactical Systems Support Activity at Camp Pendleton as the command's lead for business practices and the Zero Trust pilot program. (Courtesy photo)

"The NPS GEP officers are critical to MCTSSA as they support significant enterprise-level initiatives and efforts," said MCTSSA Commanding Officer, Lt. Col. Michael Liguori. "We get highly motivated officers with a desire to solve complicated problem sets. Our mission is to build capacity where needed within the Fleet Marine Force and these Marines bring tremendous talent and critical thinking skills to develop and deliver new capabilities for the FMF."

There are approximately 16 NPS graduates assigned to MCTSSA, filling critical roles within the command's cyber, naval integration and acquisitions divisions. Liguori also attended NPS and earned a Master of Science degree in Information Technology Management in 2014.

His utilization tour was spent as a Branch Head at Manpower and Reserves Affairs responsible for overall portfolio and operational management of manpower systems and data with a focus on DevSecOps, Data Center and Network Operations and associated system Information Assurance and Information Management capabilities.

"Combined with the MCTSSA civilian workforce and experience, MAGTF [command, control, communications, computers and intelligence] system, and the tactical networks, our NPS officers provide real-time technical experience because they're fresh from the classroom and ready to apply what they learned," Liguori said.

MCTSSA's current executive officer, Maj. Adam Foushee, also attended NPS and earned his Master of Science degree in Electrical Engineering in June 2016. Foushee served his utilization tour at MCSC in Quantico, Virginia, from June 2016 to June 2019, where he served as the lead systems engineer for Terrestrial High-Capacity Communications systems.

Foushee, a CH-53E pilot, recommends to others going to NPS to take the graduation education opportunity as a chance to 'bloom where you're planted.' He advises for students on their way there to take courses in systems engineering and program management because it is a foreign language to most and it will pay dividends in every utilization tour. He said this is how they will become more tactically proficient while continuing their military career.

Intuitive, NPS-Developed Behavior Analysis Tool Now Accessible to the Public

By Rebecca Hoag

From drone communication to supply chain optimization, the web-based behavior modeling tool Monterey Phoenix (MP) [Firebird](#), developed at the Naval Postgraduate School (NPS), has already been used by many different research projects since it was first released online in 2015 due to how widely useful emergent behavior analysis is. And now, the open-source tool is free and available to the public through the [NPS Gitlab website](#).

MP models a wide range of system behaviors, bridging computer science and systems engineering to reduce human error in the systems design process before a single line of code is ever written or prototype ever formed. In other words, MP looks at almost any system design situation that is thrown at it and visualizes them via process flow charts in a simplified way for its users.

According to NPS Associate Professor Kristin Giammarco, even though the human brain is amazing at thinking through different behavioral scenarios, a behavior modeling tool like MP can help the human brain fill in the blanks in emergent behavior analysis.

“The human knows how to do all the things the automated tool does but can do more,” Giammarco explains. “We just offload the repetitive and time-consuming tasks to the automatic tool to free up the human’s cognitive resources for things currently only humans can do. That is, for reasoning through behavior logic, accessing experience and intuition, and applying imagination to predict possible states for the systems being modeled. The automated tool does all the heavy lifting of computation and scenario generation, so that the human may focus on analysis and refinement of the scenarios being presented.”

The National Security Agency (NSA)’s National Cryptologic School (NCS) recently sponsored a pilot MP Virtual Internship Program for 60 college student selectees with a wide variety of majors ranging from cybersecurity to psychology. The students found a substantial number of unexpected emergent behaviors over their four-week, part-time program.



Monterey Phoenix is a specification language and software developed by NPS faculty to model potential system behavior to minimize the potential for human error in the design process before code is ever written. The surprisingly intuitive package is broadly applicable, and now free and available to the public through the Monterey Phoenix website. (Courtesy asset)

“NSA’s National Cryptologic School is thrilled to have partnered with another defense education institution to bring this phenomenal software and framework to our military interns,” NCS Commandant Diane Janosek says. “Partnerships like this one between NCS and NPS are the wave of the future – coming together for our nation. It takes collaboration between private industry, government, and academia to keep our nation safe. We are proud to serve!”

MP consists of a simple event grammar to describe order of events and prioritization of said events. It will continue to look exhaustively for all possible scenarios from this given information until it’s told to stop by leveraging the Small Scope Hypothesis to expose any errors in the user’s thinking. Giammarco likens the scenario discovery process to observing the behavior of a child after being given instructions.

Auguston developed several MP prototypes from 2009 to 2015. While it has now reached the point of great application potential, the MP team continuously works to improve the tool. Right now, the fourth version of MP is available for public use through the NPS Firebird server or offline using Gryphon. NPS Faculty Lecturer U.S. Army Lt. Col. Michael Senft made it so MP graphs can be imported to Neo4j’s scripting language Cypher. He’s now developing a GoJS interface for MP.

At NPS, two recent graduates, Peter Pommer and Nickolas Carter, applied MP to explore every possible behavior a drone could exhibit when tasked to locate a target and report back. MP discovered a flaw in their instructions to the drone, saving time and energy down-the-line had the problem not been found. Carter noted he was quite apprehensive about MP before using it, but now he’s a true believer in its abilities, especially when it gets updated from a 32-bit system to 64-bit (a good thesis topic for an interested NPS student, he says).

NPS Professor Charles Pickar is using MP to aid in an acquisition research project, to develop a simulation to prepare acquisition officers for real-life acquisition programs using MP for a virtual simulation. He hopes to create a learning environment to provide our students better understanding of the dynamics of weapon system development.

Current MP users are excited to see where the technology goes. One of the 60 students who interned last year, Texas A&M Information Technology student Johnnie Roberts, said the program’s staff “provided excellent guidance and mentorship” during his time. He enjoyed it so much that Roberts volunteered for the MP Ambassadors Program through which he’ll continue to learn more about MP and possibly teach it to incoming students.

Giammarco believes MP can be applied to all NPS departments and in other schools because studying behavior comes in so many forms, from software-based problem-solving to predicting human behavior to making organizational structures more efficient. She hopes it will become a core competency standard of the university where it can highlight the important partnership between computer science, defense management, and systems engineering, if not others.

“I’d really like to see MP made easy and able to be used across the DOD and its partners,” she says. “It is something NPS should be really proud of.”

Any Day at NPS



From left to right: USMC Capts. Ayesha Ahmad, Melanie Roy and Joseph Kopowski show off their new NPS mugs they received after registering for the NPS Alumni Association and Foundation, Feb. 9. (U.S. Navy photo by Javier Chagoya)



Ornamental thundercloud plum trees blossomed early this year and made for a colorful walkway to Dudley Knox Library on a mid-February morning. Gold finches feasted on the nutritious flowers and flitted from branch to branch. (U.S. Navy photo by Javier Chagoya)



Students from the Defense Resources Management Institute's (DRMI) International Defense Management 21-2 course gather for a class photo, Feb. 22. (U.S. Navy photo by Javier Chagoya)



Students from the Defense Resources Management Institute's (DRMI) Performance Management & Budgeting 21-2 course gather for a class photo, Feb. 24. (U.S. Navy photo by Javier Chagoya)



Cmdr. Kenneth Ferguson, left, receives a Meritorious Service Medal from NPS Dean of Students Capt. Markus Gudmundsson during an Awards at Quarters ceremony, Feb. 26 (U.S. Navy photo by MC3 James Norket)



NPS Chief of Staff Capt. Philip Old addresses staff during an Awards at Quarters ceremony, Feb. 26. (U.S. Navy photo by MC3 James Norket)

FACULTY news & notes

The American Institute of Aeronautics and Astronautics (AIAA) proudly congratulated Dr. Oleg Yakimenko as one of its newly elected Class of 2021 Honorary Fellows and Fellows.

Honorary Fellow is the highest distinction conferred by AIAA and recognizes preeminent individuals who have had long and highly contributory careers in aerospace and who embody the highest possible standards in aeronautics and astronautics. AIAA Honorary Fellows and AIAA Fellows are the most respected names in the aerospace industry.

AIAA confers the distinction of Fellow upon individuals in recognition of their notable and valuable contributions to the arts, sciences or technology of aeronautics and astronautics. Nominees are AIAA Associate Fellows. Since the inception of this honor, 1,980 distinguished persons have been elected as a Fellow.

"AIAA takes great pride in honoring this Class of Honorary Fellows and Fellows. These professionals have distinguished themselves by their significant and lasting contributions to the aerospace community. Their passion, accomplishment and dedication to the industry are worthy of this recognition. They are the inspiration to aspire to even greater heights for the generations that follow," added Dan Dumbacher, AIAA Executive Director.



Have a story to share?
Public Affairs is constantly seeking interesting news and stories for Update NPS. Send your tips to pao@nps.edu.

President's "Ask Me Anything" March 4, 3:00 - 4:00 p.m.

By NPS President retired Vice Adm. Ann Rondeau

Team NPS,

March is upon us already and spring is just around the corner. I know Winter quarter graduates are putting their finishing touches on thesis solutions and capstone projects and looking forward to their last finals at NPS. My best wishes to you, and all our faculty and staff who make the magic happen here at NPS!

Once again, our graduation will be virtual, but I am pleased to say that we have recorded graduation remarks from [Vice Adm. Lisa Franchetti](#), Director for Strategy, Plans and Policy (J-5), Joint Staff. Her comments with mine and others will be posted to our graduation webpage. Add your own shout-out to the chorus by sending your video [here](#) (click "Join Folder" to upload).

This Thursday, I will begin a regular drumbeat of twice monthly "Ask Me Anything" (AMA) sessions. The purpose of these sessions is to offer updates on my [NPS President's 2021 Intent](#), address current issues, and take your Q&A. We will try a more open interface and experiment with TEAMS Live, which is a webinar format. Please mark your calendars, links below:

- [TEAMS Live link](#)
- Submit advance questions here: [Ask the President Wiki](#)
- Calendar Invite (click [here](#) to download and open with Outlook)

Today is also [Dr. Scott Gartner's](#) first "official" day as our new NPS Provost. Welcome aboard Dr. Gartner! Although Dr. Gartner is completing his in-processing this month, he will join me on Thursday for the AMA.

As I mentioned in my All Hands last week, I was fortunate to take a much needed trip to DC and reconnect with many of our critical stakeholders in OPNAV, the Secretariat, and with all the leaders of the Naval Education Enterprise institutions. I look forward to sharing highlights with you in my AMA on Thursday, but for now, know this much: we are on the right course. NPS has a revised mission, and a new mandate from CNO Admiral Gilday in his NAVPLAN, "The Navy's education enterprise must align its curriculum and research to deliver warfighting advantage. Student and faculty research will focus on warfighting concepts and capabilities our Fleet needs to compete and win."

In many respects, we already do this, and I was pleased with the initial response in DC to my vision of growing NPS as a Naval university for applied research to expand our role in developing solutions and delivering capability. We must do this within fiscal realities, and to grow our value proposition, we need NPS stakeholders to understand better our current value first. This challenge is something we all contribute to through our daily interactions with others, and we can do more together as leaders and communicators.

For example, I was pleased to read NPS alumnus and Defense Analysis faculty member Dr. Wayne Porter's recent article in Proceedings, "[A Unique Take on NPS: Important Then, Critical Today](#)." It is a terrific story about his and Admiral Mullen's role in the 2005 BRAC, and his view of NPS now being even more important and relevant to naval and national security today. Well done!

Again, I look forward to sharing more and hearing from you this Thursday at 1500. See you then.

Study well, work hard, and stay safe!

With great respect,



Ann E. Rondeau, Ed.D.
Vice Admiral, U.S. Navy (Ret.)
President, Naval Postgraduate School



Monterey County Vaccine Update

By Tony Colon, Director for Safety, Health, and Environmental

The Health Department and the Office of Emergency Services have notified the Monterey County Office of Education that all employees who are currently working in education and childcare in Monterey County have the opportunity to begin registering for the vaccination process **beginning Wednesday, March 3, 2021.**

In preparation for the vaccination clinics, we recommend that employees click [here](#) and [here](#) to watch videos about how vaccines work, visit [here](#) for FAQs about COVID-19 vaccines, and read the vaccine fact sheets from [Moderna](#) and [Pfizer](#). We do not know which vaccine will be available at each clinic so it is important to review information on both vaccines. If additional brands of vaccines are available in the future, we will provide you with additional fact sheets.

As a reminder: If you are a current employee in education, are 65-74 years old, and are working in Monterey County (even if you live within another county), and would like to receive the COVID-19 vaccination, please utilize the links below. Employees can use a current badge, recent pay stub or letter of verification from their employer to verify eligibility (NPS provides letter of verification via [NPS Vaccine Tracking](#)). The vaccinations are entirely voluntary and free of charge. These vaccination scheduling links should not be shared with anyone.

Options to Register to Receive COVID-19 Vaccine, NPS Faculty and Staff

Option 1: Contact your primary care provider to schedule an appointment to receive your COVID-19 vaccination.

Option 2: County

1. Register at a local clinic to receive your COVID-19 vaccination, clinics and schedules are posted [here](#).
 - a. Make appointment beginning March 3.
 - b. Bring proof of employment at NPS.

- i. CAC + Standard memo accessible via [NPS Vaccine Tracking](#)
- ii. Or SF50
- c. Update [NPS Vaccine Tracking](#)

Option 3: DoD, at CALMED Army Clinic – Information provided via separate correspondence

Please select only ONE clinic option to register for your first vaccine appointment.

Note:

Clinics cannot vaccinate persons who:

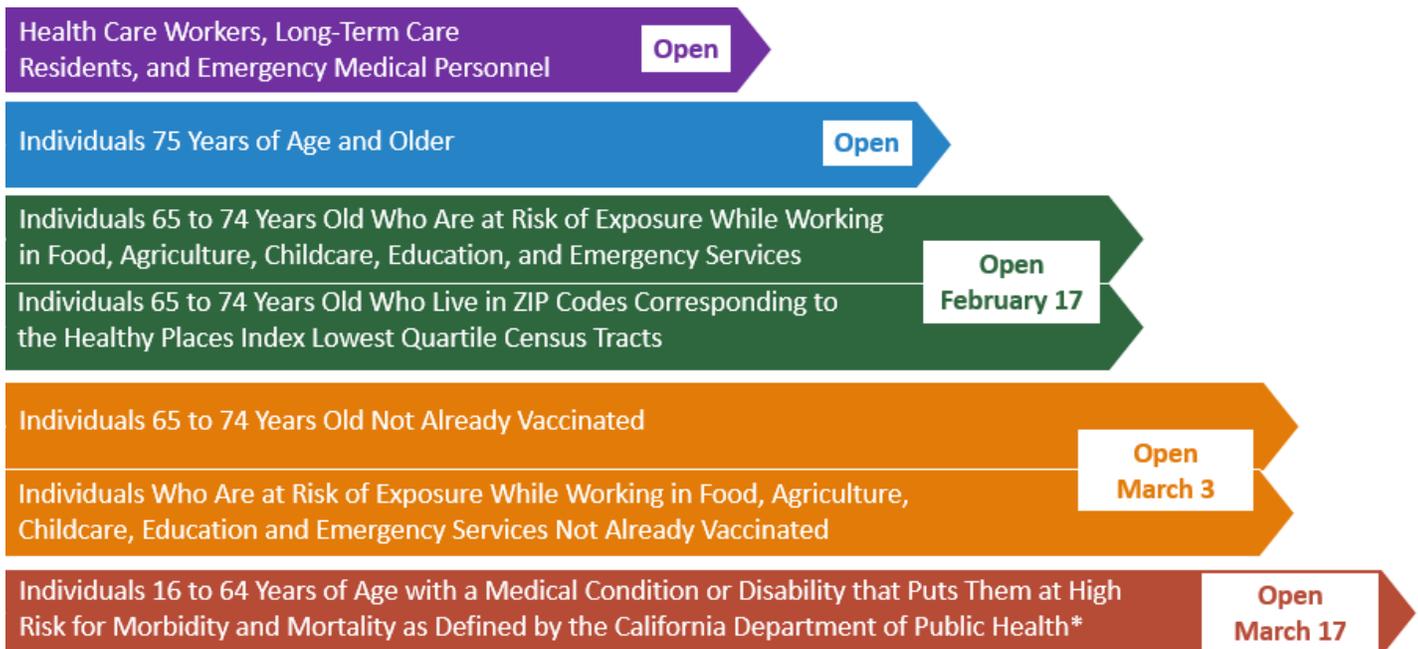
- Are exhibiting COVID-19 symptoms
- Have had any vaccination in the last 14 days
- Are pregnant or breastfeeding
- Have had an anaphylactic reaction to a vaccination or injectable
- Have received passive antibody therapy in the last 90 days
- These persons should contact their primary care provider.

You will be required to remain at the vaccination site for 15 minutes after your vaccination so please schedule appropriately.

For your information, beginning March 15, individuals with certain medical conditions that place them at high-risk for serious illness will be eligible to receive the COVID-19 vaccine. Health care providers may use their clinical judgement to determine if their patients have one or more of these conditions. The list of conditions can be found [here](#).

Note: Vaccine supply is extremely limited. Because Monterey County receives 3,000 to 4,000 first doses of vaccine each week, local vaccine providers will not have enough vaccines to immediately immunize all of their patients that are eligible for vaccination.

Future timetable for Monterey County Health Department



Expanded Operational Stress Control Resources

Adapted from NAVADMIN 222/19

One Sailor lost to suicide is one too many. Operational Stress Control (OSC) plays a critical part in creating a supporting environment where those who need help can have the courage to seek help.

The Expanded Operational Stress Control (E-OSC) program will better inform and empower the Navy community of Sailors, civilians and their family to identify these signs of stress within themselves and each other and know where to turn for help.

The following resources are available for use by leadership / CRTs at all levels to assist in cultivating a culture of healthy stress management.

- a. Deployed Resiliency Counselors (DRCs).
- b. Embedded Mental Health Providers.
- c. Navy Dietitian Support to Operational Forces.
- d. Fleet and Family Readiness Programs such as Navy Fitness, the Liberty Program and Community Recreation.
- e. Navy Fleet and Family Support Centers (FFSC) which provide educational programs and services in the areas of deployment support, personal financial management, clinical counseling, and life skills education. To find your local FFSC visit www.ffsp.navy.mil.
- f. Lifelink newsletter. Monthly informational resource featuring content related to the Navys 21st Century Sailor programs that may influence operational stress control and stress navigation. Recent editions can be found under the 21st Century Sailor tab at: www.mnp.navy.mil/group/sailor-and-family-support.

There are a variety of additional Sailor and family resources available to navigate stress or personal crises.

- a. **Military Crisis Line** - 24/7 confidential and toll-free support for service members and veterans in crisis. Call 1-800-273-TALK (option 1), text 838255 or visit www.militarycrisisline.net.
- b. **Military OneSource** - Confidential non-medical counseling available to service members and families. Call 1-800-342-9647 or visit www.militaryonesource.mil.
- c. **Navy Chaplain Care** - Communications are 100 percent confidential unless the service member decides otherwise. Call 1-855-NAVY-311 to request chaplain support or visit www.navy.mil/local/chaplaincorps/.
- d. **Psychological Health Resource Center** - Free and confidential professional health resource for service members, families and clinicians. Call 1-866-966-1020 or visit www.realwarriors.net/livechat to speak with a consultant 24/7.
- e. **Psychological Health Outreach Program (PHOP)** - Provides Navy Reservists and their families full access to appropriate psychological health care services. Contact your local PHOP region for assistance at 1-866-578-PHOP(7467).
- f. **Navy and Marine Corps Public Health Center** - Committed to supporting Fleet and Marine Corps readiness and enhancing public health outcomes through products and services. www.med.navy.mil/sites/nmcphc/health-promotion/Pages/default.aspx.

CNO Message to the Fleet Regarding Extremism

By Chief of Naval Operations Adm. Mike Gilday

Shipmates, I am certain the vast majority of men and women in the United States Navy serve with honor, character, and integrity. But we cannot be under any illusions that extremist behaviors do not exist in our Navy.

Just in the past few weeks, there have been two separate incidents where symbols of hate and violence were anonymously left in living areas aboard ships in our Fleet. The chain of command took both of those incidents seriously and immediately launched investigations, which are ongoing.

But there is more we must do, together, because these symbols are contrary to our Navy culture, core values, and warfighting effectiveness.

As directed by the Secretary of Defense and across the Fleet,

each command will conduct a stand down by April 6, 2021, to address extremism within our ranks. We must better understand the scope of the problem, get after this issue, and eliminate conduct that is driven by extremist beliefs. No doubt, this is a leadership issue. We will own this.

As a Navy uniform and civilian, active and reserve - we cannot tolerate extremist behavior of any kind, and must engage in open and honest conversations with each other and take action. Leaders at all levels must lead by example. You must set the tone. You must model correct behavior 24/7/365 in person and online.

We also have a responsibility to educate, and inspire those in the Navy, those coming into the Fleet, and those leaving our service that extremist behavior is

unacceptable. Hate and extremist ideology are wedges that divide us. These actions stoke resentment and tear others down. That's the opposite of how we will treat each other as shipmates. We build each other up, we encourage each other, and we celebrate our shipmates' success.

If we don't eliminate extremist behaviors from our Navy, then racism, injustice, indignity, and disrespect will grow and continue to keep us from reaching our potential - an inclusive, respectful, professional fighting force that answers the Nations call. If we must first question the intentions of our shipmate standing the watch with us, now, and especially, when taking fire, we will fail when the Nation needs us most in combat.

Some Sailors may think their voices do not matter right now,

or feel frustrated seeking to be seen and be heard. But let me be clear, each of your voices matter. This stand-down is another in our efforts to listen, to learn, and to improve.

Now is the time for us to come together and be guided by a strong moral compass. We must eliminate extremist behavior and its corrosive effects on our fighting force. And we must remember that we swear an oath to support and defend the Constitution above all else.

Today, and every day, our Navy must be a shining example of an organization centered on respect, inclusive of all.

We must demand of each other that we treat everyone with dignity and respect. That is how we will become a stronger Navy.



BUILD A BETTER NPS

JOIN THE COMMAND RESILIENCE TEAM

ADD YOUR VOICE

The Command Resilience Team is a combination of military staff, and volunteer civilian staff and faculty of all paygrades who provide NPS leadership with annual analysis and insights into the organizational climate of the institution.

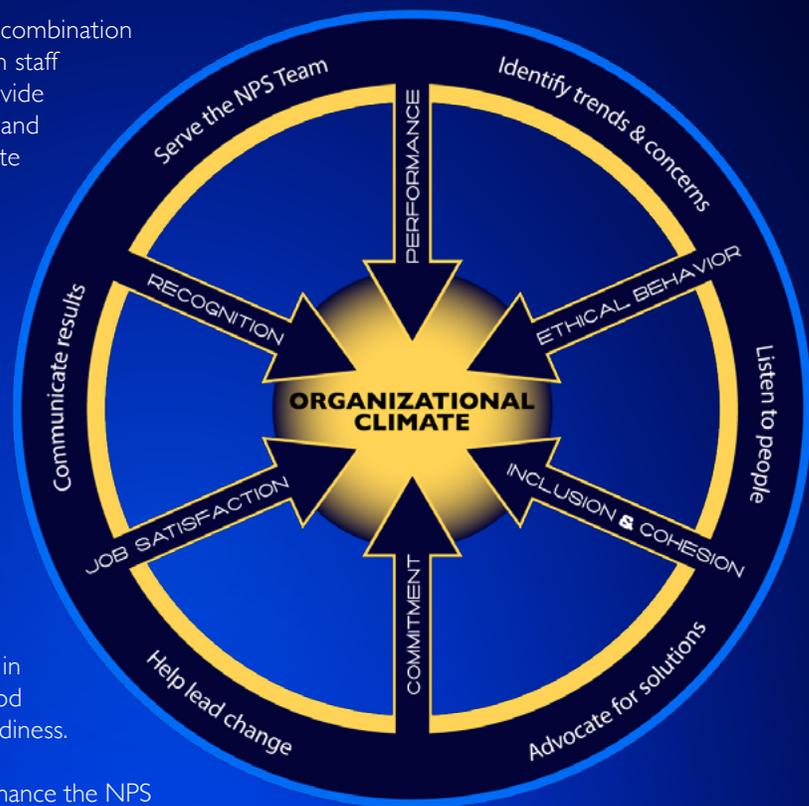
MAKE A DIFFERENCE

The CRT administers the command climate survey, facilitates focus groups, analyzes results, prepares the President's report, and recommends improvement actions and follows up on those actions throughout the year.

BUILD THE FUTURE

CRT members selflessly serve the NPS team. They identify the trends that need to be sustained and the concerns that need to be improved in order to preserve unit cohesion, good order and discipline and mission readiness.

Be a constructive voice in helping enhance the NPS culture. **Join today!**



Point of Contact

LCDR Michael Larson

NPS Command Managed Equal Opportunity Manager

michael.l.larson@nps.edu

March 4

President's Ask Me Anything
3:00pm-4:00pm | Online



PRESIDENT'S
ASK ME ANYTHING



March 14 | 22

Reporting Date
14: International
22: U.S. Students



March 16

All Hands Stand-down to Address
Extremism in the Ranks
3:00 p.m | Online



March 26

Winter Quarter Graduation Ceremony
Online



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