



NPS IN THE NEWS

Weekly Media Report – July 28-Aug. 3, 2020

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STRATEGY:

NPS Systems Engineering Adopts Digital Engineering

The Navy's Digital Engineering Transformation Strategy released by William Bray, DASN RDT&E, describes how the Navy and Marine Corps intend to improve the efficiency and effectiveness of the Navy's acquisition process through the adoption of digital engineering, a method using authoritative sources of system data and models to support all lifecycle activities. Part of adopting digital engineering is education of the workforce, and the Systems Engineering department is called out for incorporating digital engineering into their programs (see page 16).

The Naval Postgraduate School will integrate MBSE into its resident Master of Science in Systems Engineering curriculum starting in 2019, using SysML design tools and application within core coursework for five classes.

PDF Link: <https://go.usa.gov/xfQpx>

EDUCATION:

1. [The U.S. Department of Defense's Science Offices: The Little Big Secret Enabling Science and Technology Across Latin America](#)

(Global Americans 28 July 20) ... Diogenes Placencia

As Admiral Craig S. Faller, commander of the U.S. Southern Command, pointed out in a recent America's Quarterly article, the United States military has a long and established history of collaborating with partners in the Western Hemisphere. Contemporary activities include joint security operations against narcotrafficking (e.g., Plan Colombia, JIATF South activities), equipment and financial investments in our partner nation's (PNs) armed services (e.g., Andean Regional Initiative, FMS initiatives), and training and education opportunities for our partners within many of our military institutions across the United States (e.g., **the International Program at the Naval Postgraduate School** and the International Fellows Program at the Army War College).

2. [NPS' Naval Warfare Studies Initiative Launches Emerging Technology Series, Focuses First on 5G Tech](#)

(NPS.edu 28 July 20) ... Mass Communications Specialist 2nd Class Tom Tonthat

The future Navy and Marine Corps will undoubtedly be built using today's emerging technologies, therefore, the Naval Postgraduate School's (NPS) Naval Warfare Studies Institute (NWSI) launched the Emerging Technology Series for Executives July 16 to connect senior military leaders, NPS faculty and students and Senior Industry Executives to collaboratively focus on the implications these technologies have on warfighting and key operational problems. Designed to take advantage of NPS' trusted industry partners, the series aims to take advantage of the opportunities and challenges emerging technologies provide before they are widely available or even widely understood.



3. [Navy Announces New Mid-Career Officer Graduate Education Opportunity](#)

(*Navy.mil 30 July 20*) ... Mass Communications Specialist 1st Class Mark D. Faram

The Navy is now calling for applications to a new graduate education program to be piloted this fall, with 80 officers expected to start low-residency opportunities offered by up to eight partner schools... The lineup of degree programs range in length from 10 to 24 months. Current partner institutions are Old Dominion University, William and Mary University, American University, Johns Hopkins University, UCLA, UCSD, University of Washington, and **the Naval Postgraduate School**.

4. [Business Warriors Wanted: NPS Announces New Low-Res Defense-Focused EMBA for High-Tempo Officers](#)

(*NPS.edu 30 July 20*) ... Office of University Communications

The Naval Postgraduate School (NPS) is about to embark on a new program that has the potential to dramatically expand its ability to offer advanced degrees to Naval Officers the world over.

5. [How Can We Know If Professional Military Education Works?](#)

(*War on the Rocks 3 Aug 20*) ... Megan J. Hennessey

My position as a professor of educational methodology is a unique one within professional military education: Rather than substantive expertise in topics like national security, military operations and tactics, or strategic leadership, I contribute my expertise in the scholarship of teaching and learning. I explore questions like, “How does game-based learning develop students’ strategic thinking skills?” and, “How is the seminar learning environment influenced by different student demographics?” These are the types of answerable questions that are missing from recent discussions around structural reforms, instructional strategies, and like topics... Educators are also beginning to conduct and share applied educational research with colleagues across institutions and within their own schoolhouses as part of other institutional projects. For example, Kate Kuehn’s work with the Krulak Center on defining, observing, and teaching innovation at Marine Corps University has contributed to a partnership between that university, **the Naval Postgraduate School**, and the Naval War College.

RESEARCH:

6. [Open for Autonomous Business: Largest-Ever Unmanned & Robotics Systems Research Contract Awarded for NPS](#)

(*NPS.edu 29 July 20*) ... Office of University Communications

(*Navy Dispatch 29 July 20*)

(*Santa Cruz Tech Beat 30 July 20*)

Military students at the Naval Postgraduate School (NPS) have firsthand experience with complex challenges in the fleet and the field. They come to NPS to work alongside expert faculty researchers to develop solutions to key operational problems. Combining the art and science of their NPS education, students engage in solutions-focused experimentation, invention and innovation to realize the full potential of emerging technologies, many of which are in the growing arena of intelligent autonomous systems.

7. [DTIC Awards Navy Postgraduate School Contract for Unmanned, Robotics Research](#)

(*SEAPOWERS Magazine Online 29 July 20*)

The Defense Technical Information Center (DTIC) has awarded a \$42 million contract to Adams Communication and Engineering Technology (ACET) to support the Navy Postgraduate School (NPS) in its effort to expand partnerships in developing and fielding of autonomous systems and robotics, a July 28 NPS release said.

8. [ASU Research Enterprise Awarded Contract to Advance Unmanned and Robotic Technologies](#)

(*Arizona State University 31 July 20*) ... Michelle Stermole

ASU Research Enterprise (ASURE) has been awarded a contract that could total as much as \$42.4 million over the next five years to advance unmanned and robotic technologies and weapons systems.



The Naval Postgraduate School in Monterey, California, awarded \$12 million now to the Arizona State University-affiliated applied research lab to solve the initial task and is offering the opportunity for an additional \$30.4 million for subsequent tasks.

FACULTY:

9. [Military Expert Criticizes U.S. Defense Posture](#)

(The Independent 30 July 20) ... Jeff Garberson

A defense expert last week presented a highly critical picture of America's approach to national security.

He argued that frequent military interventions overseas are counterproductive and that relying on large, expensive military platforms like aircraft carriers makes the nation more vulnerable. He further stated the U.S. needs to shift its national security focus toward newer topics like cyberwar, the development of smart weapons using artificial intelligence and response to pandemics.

That expert is **John Arquilla, Distinguished Professor of Defense Analysis at the Naval Postgraduate School** in Monterey. His talk, which was live-streamed, was presented by Livermore's Rae Dorough Speaker Series.

10. [Navy Tech Optimizes UAV Flight Path for Imagery Collection](#)

(TechLink 31 July 20)

Scientists at the Naval Postgraduate School in Monterey, California, have filed a patent application for a new software technology that optimizes unmanned aerial vehicles flight path to maximize data collection from multiple targets.

11. [The Exaggerated Threat of Oil Wars](#)

(Lawfare 2 Aug 20) ... **Emily Meierding, Ph.D., NPS Assistant Professor of National Security Affairs**

Over the past year, Chinese seismic survey vessels and their paramilitary escorts have interfered repeatedly with Vietnamese and Malaysian oil and natural gas exploration in the South China Sea, harassing drilling rigs and support ships. These confrontations have prompted concerns that they could provoke a larger military conflict, especially as China exploits the unsteadiness created by the coronavirus to become more aggressive in its various international territorial disputes.

ALUMNI:

12. [Arlington Police Chief Jay Farr to Retire in September](#)

(Patch.com 27 July 20) ... Michael O'Connell

Chief Murray "Jay" Farr, a Naval Postgraduate School alumnus, will be retiring Sept. 4, after a 30-year career at the Arlington County Police Department, according to a release.

13. [Chesterfield Native Promoted to U.S. Navy Lieutenant Commander aboard USS James E. Williams](#)

(The Progress-Index 29 July 20) ... Michael O'Connell

Lt. Sean Harney, a native of Chesterfield, Virginia, and Naval Postgraduate School alumnus, was promoted to the rank of lieutenant commander during a ceremony held on board USS James E. Williams, a guided missile destroyer, currently deployed in the Persian Gulf.

14. [Mayor Bollwage Announces New Elizabeth Police Chief](#)

(Tap into Elizabeth 31 July 20) ... Madeline Thigpen

Giacomo Sacca, a Naval Postgraduate School alumnus, will succeed John Brennan as Chief of the Elizabeth Police Department, Mayor Bollwage announced Thursday.



15. [Integrated Warfare Systems Awards NSWC PHD's Juan Carlos Gordillo the Civilian Service Achievement Medal](#)

(DVIDS 3 Aug 20) ... Carol Lawrence

As deadlines tighten and requirements get tougher and more complex, that's when Juan Carlos Gordillo, a Naval Postgraduate School alumnus, shines as brightly as the Navy medal he just received.

Rear Admiral D. W. Small, program executive officer, integrated warfare systems, awarded Gordillo the Civilian Service Achievement Medal recently for leading teams the past five years on nearly 100 successful modernizations aboard littoral combat ships.

16. [Vice Adm. Kitchener Takes Command of Naval Surface Forces as Vice Adm. Brown Retires](#)

(USNI News 3 Aug 20) ... Sam LaGrone

Vice Adm. Roy Kitchener, a Naval Postgraduate School alumnus, has taken command of Naval Surface Force U.S. Pacific Fleet during a small ceremony in San Diego, Calif., the Navy announced on Monday.

UPCOMING NEWS & EVENTS:

05 AUG: NRP FY21 Topic Review Board (Virtual)

10 AUG – 28 AUG: BFR Site Visit (Virtual)

11 AUG: V-Town Hall (Command Climate Assessment Debrief)

13 AUG: Global SOF Foundation Event

25 AUG: [V-SGL with Dr. Kathryn Sullivan](#)

26 AUG: DLIFLC Women's Equality Day (Virtual)

01 SEP: NSAM COC



EDUCATION:

The U.S. Department of Defense's Science Offices: The Little Big Secret Enabling Science and Technology Across Latin America

(Global Americans 28 July 20) ... Diogenes Placencia

As Admiral Craig S. Faller, commander of the U.S. Southern Command, pointed out in a recent *America's Quarterly* article, the United States military has a long and established history of collaborating with partners in the Western Hemisphere. Contemporary activities include joint security operations against narco-trafficking (e.g., Plan Colombia, JIATF South activities), equipment and financial investments in our partner nation's (PNs) armed services (e.g., Andean Regional Initiative, FMS initiatives), and training and education opportunities for our partners within many of our military institutions across the United States (e.g., **the International Program at the Naval Postgraduate School** and the International Fellows Program at the Army War College).

However, little is broadly known about the significant effort put forth by the Department of Defense's (DoD) science offices on developing science and technology (S&T) relationships across the Latin American region, not just within military institutions but also across civil society. These offices have accounted for significant S&T investments since their establishment in the early 2000s, and actively engaged in advancing military S&T cooperation across the region.

As a result, countless undergraduate, graduate, and post-doctoral researchers have been supported, new and exciting fields of research have expanded their presence across educational institutions, and the advancement of two research, development, test and evaluation (RDT&E) agreements—which will enable closer military-to-military S&T between the U.S. and these partners—have been made possible.

DoD's International Science and Technology Effort in Latin America

The DoD's Army, Navy and Air Force science offices have a presence in several diplomatic missions and locations throughout the world, with two locations in Latin America (U.S. Embassy Chile; U.S. Consulate São Paulo) that have been active since 2002 and 2014, respectively. Their main objectives are to develop strong partnerships with *i)* Academia, *ii)* local industries and *iii)* PN armed services, for the benefit of international cooperation and U.S. interests. For academic engagements, these goals are achieved through a series of grant mechanisms that enable cutting-edge research within Latin American educational and research institutions, with a focus on basic and early applied research, all of which is open, publishable and wholly owned by the principal investigator in matters relating to intellectual property.

These academic engagements have resulted in the production of high-quality research and the strengthening of ties with scientists that will influence relevant fields such as synthetic biology, artificial intelligence and machine learning, quantum sciences, and autonomy. Although the funding of fundamental research may seem as a pursuit normally reserved for non-DoD science agencies, these investments are seen by the U.S. government as a means of ensuring innovation and discovery to ultimately expand the portfolio of S&T options that could someday become an integral part in maintaining both force readiness and a technological edge over adversaries. Most important, this can prevent technological surprise from near-peer competitors.

For partnerships with local industries, these offices function as brokers between companies throughout the Latin American region and DoD Foreign Comparative Testing (FCT) departments, which serve as procurers of novel, innovative, non-U.S.-developed technology that can benefit warfighters in their ability to effectively carry out their mission. As an example, since its inception in 1980, the FCT program has enabled the procurement of more than \$5 Billion in foreign items, leading to a direct reduction in research and development (R&D) costs, reduction of risks to major acquisition programs, and acceleration of technology to U.S. armed services.

For PN military partnerships, these offices help develop dialogue between each nation's corresponding services, in the pursuit of closer S&T cooperation. Through collaboration in S&T, the offices expect to foster closer military relationships based on inter-operative or even interchangeable



technologies. Although there are many mechanisms for cooperation (e.g., Master Information Exchange Agreements, MIEA; Engineer and Scientist Exchange Program, ESEP), the “gold standard” for S&T cooperation is the RDT&E agreement. This vehicle allows for direct military-to-military engagement on programs of interest, without the many restrictions of information sharing. As an example, several large acquisition programs have been made possible between the U.S. military and PNs due to pre-established RDT&E agreements.

While a variety of MIEAs and ESEP programs exist throughout the region, only Chile and Brazil signed RDT&E agreements with the U.S. government, pending ratification within their respective congresses. The signing of the RDT&E agreement this past March between the U.S. and Brazil is a successful case study in S&T diplomacy, due to the long and constructive effort put forth by both countries. Initiated in 2017, under now-former president Michel Temer, the DoD science offices were integral in working with key stakeholders within the Brazilian military for conversations ranging from the granularity of individual programs, to connecting leaders within the upper echelons of the DoD to the process. Thus, the DoD science offices serve as reinforcement of the U.S. military’s mission to strengthen partnerships with PNs throughout Latin America.

U.S. Government Has Competition in the Region

For the foreseeable future, the DoD science offices will continue to carry out their mission of engaging their Latin American partners in all S&T-related activities. However, the context of the mission changed due to near-peer competition mainly from the People’s Republic of China (PRC) and, to a lesser extent, Russia. The PRC has engaged thoroughly throughout the region via engagements relating to space sciences, while Russia has focused its effort mainly within the nuclear sciences.

For example, the Chinese Academy of Sciences’ South America Center for Astronomy (CASSACA) in Chile was established by the PRC at the University of Chile in 2013. There, research projects constructed from a top-down approach (contrary to projects initiated on the researcher-researcher level) are approved, while giving preference to PRC researchers over non-Chilean ones. In Argentina, they established a “Deep Space Tracking Station” to support space operations, raising concerns from the international community due to a lack of transparency. Russia, on the other hand engaged with Bolivia, Venezuela, and Argentina via several agreements that focus on training, exchanges, and development.

Against this backdrop, it is important to note that all countries are free to engage with partners on any activities for the benefit of their citizens and strategic interests. However, Latin American nations must take into consideration how these new partnerships align with their own values system—along with the implications of engaging with nation-states that have an entirely different perspective of governance, both as a matter of principle and as a matter of long-term survival. At the same time, the U.S. needs to do a better job of engaging and change its behavior of ignoring the priorities of its neighbor to the south. This has to come by way of increasing its level of engagement, both diplomatically and militarily, with a strong focus on developing solutions and resources of the region—for the region, with the region. This should include an increased effort to sign bilateral RDT&E agreements that can translate to joint development of acquisitions programs, resulting in an increase in industrial activity, jobs, and ‘home-grown’ technology development. Further, an increased amount of funding for more robust international S&T efforts—with the whole-of-government approach that includes partners like NASA, NSF, and NIH—can translate to the spurring of innovation and talent within academia and private industry. And, finally, there should be a focus on strengthening governmental institutions to promote democracy, good governance, and respect for civil and human rights.

Ultimately, however, Latin American nations will face a stark choice: whether to embrace partners whose governance is focused on subversive suppression of political dissent, lack of free-flowing commerce, and aggressive posturing against regional governments, all of which are against its own values system—or to engage with partners that promote the common values of peace, stability, good governance, freedom, and democracy that our hemisphere collectively shares. Although the agglomeration of these shared sets of values can be messy and chaotic at times, it is the glue that allows humanity to explore its



potentials to its furthest extent and continue to propagate it beyond. In this backdrop, the activities of the DoD science offices feed directly into the promotion of this shared set of values, with the ultimate goal of strengthening ties between our partners, while reinforcing western democratic values.

<https://theglobalamericans.org/2020/07/the-u-s-department-of-defenses-science-offices-the-little-big-secret-enabling-science-and-technology-across-latin-america/>

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NPS' Naval Warfare Studies Initiative Launches Emerging Technology Series, Focuses First on 5G Tech

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The future Navy and Marine Corps will undoubtedly be built using today's emerging technologies, therefore, the Naval Postgraduate School's (NPS) Naval Warfare Studies Institute (NWSI) launched the Emerging Technology Series for Executives July 16 to connect senior military leaders, NPS faculty and students and Senior Industry Executives to collaboratively focus on the implications these technologies have on warfighting and key operational problems. Designed to take advantage of NPS' trusted industry partners, the series aims to take advantage of the opportunities and challenges emerging technologies provide before they are widely available or even widely understood.

The series is planned to occur quarterly focusing on a different technology each quarter, and the series will conduct three related events each quarter dedicated to understanding the commercial and warfighting implications of that technology. Each series will begin with an industry leadership brief between military flag officers and senior industry executives focusing on what the technology is and how companies are leveraging it for commercial applications. An NPS Virtual Secretary of the Navy Guest Lecture (SGL) will follow featuring a currently serving or retired military leader with deep expertise in the technology. The series will then culminate each quarter in an executive roundtable where the leaders will discuss the implications the technology has on warfighting and how the Navy and Marine Corps might take advantage.

"Emerging technologies emerge at the same time for everyone, regardless of rank," said U.S. Marine Corps Col. Randy Pugh, NWSI Deputy Director and NPS 5G Coordination Group Director. "NPS recognizes we need to support our officers of all ranks – the Ensigns and Second Lieutenants to the Admirals and Generals – for these are the men and women who envision not just the next Navy and Marine Corps, but the Navy and Marine Corps after next. To do this, the Navy and Marine Corps need to stay on the commercial curve, and you do this by building trusted relationships and working collaboratively with commercial company partners.

"This Emerging Technology series will help us understand and leverage breakthrough technologies to stay ahead."

As a key member of NWSI, Pugh took the lead for organizing the series' first iteration – 5G technology.

The 5G series began when NPS hosted an online industry brief July 16 between senior executives from Qualcomm, senior military officers and NPS researchers to discuss 5G technology and its current commercial applications. Subsequently, prominent military cyber warriors retired U.S. Army Gen. Keith B. Alexander and retired U.S. Navy Vice Adm. Jan E. Tighe, two pillars of the DoD Cyber community and now cyber leaders in business, participated in a Virtual SGL answering questions from NPS students on the operational implications of 5G technology. A round table discussion between them and NPS leadership immediately followed.

"The blinding pace of 5G technology and the associated application development is being completely driven by business and commercial wireless companies," said Pugh. "Unlike the evolution from 3G to 4G, 5G promises revolutionary change. The ability to have exponentially more devices on the network, the ability to move exponentially more data, the exponentially more precise delivery of that data, and other features of 5G make things that were previously impossible suddenly possible.



“Qualcomm is a universally-recognized leader in 5G,” continued Pugh. “They have a breadth and depth of technical expertise that, combined with the operational and tactical expertise of NPS’ faculty and students, means we are literally the first in the world to learn about new technologies, and then first in the world to integrate it into our naval warfighting concepts and capabilities.”

Commercial companies have provided most of today’s research and funding to reach those possibilities with 5G. By sharing their knowledge pool and resources, NPS and Qualcomm can possibly overcome current challenges of 5G development.

“For us at Qualcomm, fundamental research is a huge portion of what needs to be done,” said Mark Koro, Qualcomm’s Senior Vice President for Government Affairs. “Because without research, you cannot go to a standards body and present viable information that could become part of these global international standards. For Qualcomm, we really try to educate folks on where the technology has to go, so the core technology development is really where we at Qualcomm are focused on.”

Pugh noted that while 5G’s potential can shape the future of warfighting, there are other technologies that have that potential as well and NPS can play a part in shaping those technologies rather than having to help catch up to them.

“In just a few years we will see self-driving cars, drone delivery service, augmented reality in our eyeglasses, and every device in our house connected into a massive internet of things – all communicating and anticipating our next move,” said Pugh. “This is the reason for the Emerging Technology Series, so the Navy and Marine Corps can leverage industry, where the majority of technological breakthroughs are made, to building trusted relationships and working collaboratively to solve our key operational problems.

“Now imagine these innovations on the battlefield and what our warfighters could do with them,” continued Pugh. “Now imagine if our adversaries figure it out first. NPS’ unique mission within the Department of the Navy makes it a sensible place to teach officers about emerging technologies, and to research, experiment and wargame with them so we figure it out first.”

<https://nps.edu/-/nps-naval-warfare-studies-initiative-launches-emerging-technology-series-focuses-first-on-5g-tech>

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Navy Announces New Mid-Career Officer Graduate Education Opportunity

(Navy.mil 30 July 20) ... Mass Communications Specialist 1st Class Mark D. Faram

The Navy is now calling for applications to a new graduate education program to be piloted this fall, with 80 officers expected to start low-residency opportunities offered by up to eight partner schools.

The Low-Residency Graduate Education Program (LGEP) is designed to provide due-course naval officers in paygrades O-2 to O-5 the chance to get a Navy-funded graduate degree in one of three disciplines -- strategy, management or international relations.

The pilot program was announced last week in Naval Administrative Message (NAVADMIN) 204/20, which requests that applications be submitted by August 2.

“This initiative is the product of close collaboration between the Chief Learning Officer (CLO), N7, and the warfare communities,” said VADM Stuart Munsch, former Deputy Chief of Naval Operations for Warfighting Development and service-lead for naval education, whose office helped to champion the new program. “Once implemented, LGEP will give officers with compressed career paths an opportunity to pursue a graduate degree that fulfills education requirements for promotion and milestone screening and contributes directly to Navy warfighting advantage.”

The idea is to give officers on compressed career paths a flexible, Navy-funded option to earn graduate degrees which meet the O-7 promotion eligibility education requirement.

Each program is designed to be completed during a shore-duty tour. This means that selected officers will remain at their duty stations and complete most course work online or via telephone. Residency requirements are met through funded, monthly trips to campus.



The lineup of degree programs range in length from 10 to 24 months. Current partner institutions are Old Dominion University, William and Mary University, American University, Johns Hopkins University, UCLA, UCSD, University of Washington, and the **Naval Postgraduate School**.

In return for the service-funded education, selected officers agree to a continued service obligation of three years, which is served concurrently with any other service obligations they have.

The obligation, which is incurred whether or not the officer completes the degree, starts either on the date of program completion or, should the officer not complete the degree, the date of withdrawal from the program.

This year's program is a test of concept, designed to gauge the effectiveness of low-residency education delivery models in netting officers required graduation education while also meeting the needs of the Navy for strategy-minded warriors.

If successful, the program could expand opportunities for up to 300 officers annually in future years.

The window for applications this year is open now and runs through August 2. A committee from the office of the CLO will review the applications; selectees will be announced by August 14.

<https://www.navy.mil/Press-Office/News-Stories/display-news/Article/2291314/navy-announces-new-mid-career-officer-graduate-education-opportunity>

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Business Warriors Wanted: NPS Announces New Low-Res Defense-Focused EMBA for High-Tempo Officers

(NPS.edu 30 July 20) ... Office of University Communications

The Naval Postgraduate School (NPS) is about to embark on a new program that has the potential to dramatically expand its ability to offer advanced degrees to Naval Officers the world over.

NPS' Graduate School of Defense Management (GSDM) will begin offering an enhanced Executive Master of Business Administration (EMBA) this Fall through the Low-residency Graduate Education Program (LGEP), a new pilot initiative of the Deputy Chief of Naval Operations for Warfighting Development (OPNAV N7).

The LGEP is designed to provide mid-career Naval officers the opportunity to pursue the graduate degrees needed for career progression. For Unrestricted Line Officers especially, this is a golden opportunity to be able to further education without having to spend time away from high-tempo professions.

"This initiative is the product of close collaboration between the Chief Learning Officer (CLO), N7, and the warfare communities," noted Vice Adm. Stuart Munsch, former N7 and the Navy's lead for education. "Once implemented, LGEP will give officers with compressed career paths an opportunity to pursue a graduate degree that fulfills education requirements for promotion and milestone screening and contributes directly to Navy warfighting advantage."

The LGEP is a centrally funded program, covering all tuition, required books, travel and other materials. Degree programs range from 10 to 24 months in duration and fulfill the requirement of one year of in-residence, strategically focused education for promotion.

Partnering with a host of top-tier graduate programs across the nation, including John Hopkins University, UCLA and the University of Washington, LGEP affords students the chance to earn a master's degree in a range of academic areas: in addition to an EMBA through NPS, officers can study Applied International Studies, Global Policy or Public Administration, to name a few.

Unlike its civilian counterparts, however, NPS has a 111-year head start in best understanding the needs of the military. Furthermore, in addition to the EMBA available through the LGEP, the university offers a diverse range of available certificate options that are not available through other MBA programs in the LGEP, including Regional Security Studies, Intelligence Operations, and International Defense Planning. As such, NPS is able to provide the most relevant, interdisciplinary curriculum possible.



Drawing on two decades' experience providing Distance Learning (DL) education to the nation's officers, the revised EMBA will feature greater time spent on NPS' campus, melding the convenience of distance learning with a balanced degree of in-person interaction.

This EMBA is a two-year program with six in-residency periods: following an introductory session, students and faculty convene on campus twice more over the first year and three times over the second. The idea is to increase the socialization of students and faculty as they get to know each other, network more and facilitate greater classroom interaction.

"It just seemed only natural to leverage an existing program to incorporate more on-campus activity to increase the extent of student-to-student and faculty-to-student interaction," said GSDM Dean Keith Snider. "So that's what we did: we took a very successful program and really just adapted that to meet the Navy's needs."

The LGEP represents a giant step forward for the Navy in the education of its officers, especially its URLs.

"The LGEP reflects who we are: we understand who our principal customer is and are able to adapt very quickly to emerging needs," Snider said. "It also reflects that we have anticipated those needs for some time and have the existing capabilities we can leverage to meet them."

"I'm excited to see the LGEP unfold," he added.

<https://nps.edu/-/business-warriors-wanted-nps-announces-new-low-res-defense-focused-emba-for-high-tempo-officers>

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How Can We Know If Professional Military Education Works?

(War on the Rocks 3 Aug 20) ... Megan J. Hennessey

My position as a professor of educational methodology is a unique one within professional military education: Rather than substantive expertise in topics like national security, military operations and tactics, or strategic leadership, I contribute my expertise in the scholarship of teaching and learning. I explore questions like, "How does game-based learning develop students' strategic thinking skills?" and, "How is the seminar learning environment influenced by different student demographics?" These are the types of answerable questions that are missing from recent discussions around structural reforms, instructional strategies, and like topics. Jim Golby argues that professional military institutions should emphasize applied social science research. I agree, but our efforts to achieve "intellectual overmatch" in professional military education systems could be further bolstered if we also include applied research on professional military education itself. Doing so would allow the U.S. military's schoolhouses to make evidence-based curricular, instructional, and even administrative decisions.

Applied research is actionable scholarly inquiry. Its experimental design follows the scientific method: posing a research question, sharing a hypothesis, testing that hypothesis, analyzing data, and communicating results. Applied research is rigorous and transparent in its methods, and because of this its findings are not only testable but also often reproducible. Applied research helps us to understand experiences, behaviors, and relationships beyond discrete, highly controlled variables and measured effects. Context is key. One has only to read RAND's recent report on culture and competition across the military services to understand that no two professional military education institutions, classrooms, or (especially!) individual students are identical. Applied educational research honors plurality and diversity, and a variety of theories and methods can shape one's approach to studying the military learning environment.

We can learn much from educational research by civilian partners, but there are limits to this research's findings and recommendations in a military learning context. Further, it is unwise to relegate an understanding of what goes on within military learning environments solely to the analyses often seen as part of standardized institutional assessments like end-of-course surveys or student evaluations of teaching. These surveys yield reactionary data. This data, based on the first level of Kirkpatrick's



evaluation model, is not indicative of student learning. Rather, it just reflects students' satisfaction with any given quality of a learning event (most commonly, teacher performance). Student evaluations of teaching have also been increasingly exposed as biased against educators identifying as women as well as racial and ethnic minorities.

While it is important for faculty and schoolhouse leaders to know if students are satisfied with their educational experiences, it is more important to know what and how they learned from these experiences. Asking students to rate their own knowledge of curricular concepts in end-of-course surveys is a shallow data point that is more helpful as a reflection activity than as a measure of learning. Instead, we can use applied educational research to capture students' true demonstration of learning through their own behaviors and dialogue, including the quality and vocabulary of the questions they ask. In this way, applied educational research can supplement the data we are already capturing from experiential learning activities and formative and summative assessments like tests, practical exercises, and capstone requirements.

Professional military education scholars, administrators, and educational methodologists should incorporate frequent, methodologically rigorous interventions — or experiments — in the classroom to test educational strategies. After all, as Beth McMurtrie wrote: “The future of learning is not ‘trust us.’ The future of learning is ‘did it work?’”

Teaching as Research

Applied research on professional military education tests if, how, and why educational strategies are working. This understanding can ensure leaders and educators are not making decisions based only on “gut instinct” or anecdotal support but on actual observable evidence. In my work, I have often heard from experienced instructors that they can tell if a student has learned something because they “see it in her eyes.” They admirably refer to students’ “ah-ha moments” as their own pinnacle teaching achievement. However, many of these instructors cannot clearly explain the process that got the student to that ah-ha moment, or how they know the student is truly experiencing what the instructor thinks they are experiencing. The value of these educators’ good instincts and years of practice is not in question. It is also not enough. Making assumptions about students’ learning based on gut instincts is the equivalent of asking our students for their rationale behind a strategic decision and their response of “I just know.” Instructors would not accept this from their students and should not accept it from themselves. Doing so limits the professional military education community’s ability to teach and learn from each other in a clear, demonstrable, and actionable way. It is time for professionals in the military education system to take the opportunity to dig deeper into the science of learning.

The questions asked in applied educational research can take many forms. As the Carnegie Mellon Eberly Center teaches its faculty in its annual Teaching as Research workshop, these questions could include: “What does the process of student learning look like?”; “Does this process vary for subgroups of students?”; and “How does student learning change over time?”

The data yielded by these studies is invaluable and can be immediately applied to improving teaching practice. The concept of teaching as research, which honors the discipline of the individual educator (i.e., military history, political science, organizational psychology, etc.) within the context of the scholarship of teaching and learning, is already in place at institutions like Harvard, Johns Hopkins, Princeton, Vanderbilt, Yale, Massachusetts Institute of Technology, and the University of Michigan, to name a few. This type of research is ethically guided by and shared in professional organizations such as the American Educational Research Association, founded over 100 years ago. In professional military education, it is time to mobilize institutions’ already highly experienced and credentialed faculty to conduct their own classroom-based studies centered around the research questions that matter most to them, and in a rigorous, valid, and reliable manner with sound methodology and institutional support.

Some educators have made a start of this already. In the past several years our colleagues in professional military education have presented their applied research findings in venues like the Scholarship of Teaching and Learning Commons Conference and the Professional and Organizational Development Network Conference. For example, Lauren Mackenzie of Marine Corps University and



Angelle Khachadorian and Susan Steen of Air University jointly presented on “Metacognitive Strategies for Teaching and Assessing Military Students” at the former conference this year. Relatedly, Brandy Jenner of the U.S. Army War College presented our combined research on “Assessing Sense of Belonging in a Problem-Based Learning Environment” at the 2019 Higher Education Data Sharing Consortium.

Educators are also beginning to conduct and share applied educational research with colleagues across institutions and within their own schoolhouses as part of other institutional projects. For example, Kate Kuehn’s work with the Krulak Center on defining, observing, and teaching innovation at Marine Corps University has contributed to a partnership between that university, the Naval Postgraduate School, and the Naval War College. This partnership has resulted in an annual Innovation Summit. The dearth of professional military education-specific colloquia for applied educational research drove my creation of the Joint Professional Military Education Scholarship of Teaching and Learning Forum earlier this year. The forum is organized to facilitate focused dialogue on research findings, research in progress, and plans for classroom-based pilot experiments in areas like evidence-based instructional strategies, faculty development, and educational technology. The desire and need for this type of publicly shared scholarship is evidenced by the nearly 200 participants who registered to attend the forum, from approximately 30 different federal government agencies, professional military education schoolhouses, and civilian higher education institutions. Before the event was postponed due to COVID-19, we also received over 40 research presentation submissions on topics ranging from “A Quantitative Study of the U.S. Army Command and General Staff Officer’s Course Attendance and Student Resilience” to “Designing and Validating a Military Graduate Student Reading Assessment.” As another example, forum presenter Celestino Perez and I worked together to transform his initial work on strategic performance into a classroom-based study that measured students’ understanding of causal logic and ethical discourse.

Getting Started

One of the most important requirements to make applied educational research a success in professional military education is a shared innovative and investigative ethos within the studied institution. As Karen Peel discusses in her introduction to applied educational research, transparency and rigor in this research go hand-in-hand. Intellectual humility is required, in this regard, as the institution should be willing to take a hard look at itself in real time, reflected in observable and measurable student and faculty behaviors. The data might not be complimentary. Revealed barriers to better learning might not be quickly or easily fixed. Institutions may find, for example, that obstacles to a top-tier military learning experience do not include the usual subjects of funding or technology, but fixed mindsets and tired teaching practices. Institutional leaders who encourage innovation through protecting academic freedom and who are open to learning through experimentation and reflection will benefit the most from this type of research.

To ensure that applied educational research on professional military education is done well, leaders should also put their money where their mouths are. As the Joint Chiefs of Staff explained, “A world-class educational program is not an accident, nor does it come cheap.” Experimental research requires both tangible and intangible resources, from educational technology contracts for pilot experiments to a bench of professionally trained faculty and staff to collect and analyze data. Students’ attainment of learning outcomes should not be put at risk by educational experimentation. It is therefore vital to dedicate the proper resources and planning to designing these studies, to include the expertise of experienced researchers. Learning the craft of applied educational research takes time, and expecting professional military education faculty to undertake these critical discoveries without proper training and support is irresponsible.

Creative approaches will not necessarily require hiring a bevy of Ph.D.s in education, however. The U.S. Army War College has found recent success with a postdoctoral fellowship program funded by the Army War College Foundation. This program is not only an effective outreach and recruiting tool — exposing early career scholars to what might otherwise be the unfamiliar world of professional military education — but it also leads to actionable research done by recent doctoral graduates with fresh research



skills. For example, Jenner's research on the value of diversity in professional military education settings helped inform the decision to, for the first time in the institution's history, conduct gender-blind student assignment into seminars for the resident education program in the 2020 academic year at the Army War College. As the academic year has closed out, the next step will be to explore how these seminar assignments may have influenced outcomes such as student grades, as one example. Faculty fellows programs are another option. Faculty fellows programs like the one in place at Stanford's Institute for Research in the Social Sciences can enable faculty to conduct applied educational research through funded research time and educational resources like software licenses. This work is undertaken separately from their teaching responsibilities and recognized as part of their workload. These programs simultaneously capitalize on faculty's research and disciplinary expertise in order to test new educational methods, tools, and initiatives. Competitively selected faculty fellows are experts in their own fields of study and also passionate about their own reflective teaching practice informed by the scholarship of teaching and learning.

With strong organizational support, this data can feed into cycles of curriculum development and faculty development, which can in turn positively affect student learning. With data on if and how educational strategies are working, instructors can customize learning experiences to individual students. To elaborate, different students could achieve the same learning outcomes as guided by the *Officer Professional Military Education Policy*, but their paths to learning might look different based on their incoming experiences and levels of proficiency, and even the way they communicate and interact with others. The same customization could apply to faculty. As an example, currently the U.S. Army War College teaches a standardized curriculum for 25 concurrently facilitated seminars in the Resident Education Program. This could be adjusted to a more flexible model that better honors and capitalizes on the curricular expertise and teaching abilities of individual faculty. When supported by the findings of applied educational research, this model appeals to faculty strengths and improves students' incoming educational deficiencies.

Finally, to lead to real change, resulting analyses and findings of applied educational research should be shared publicly. As this type of research continues to take hold and develop throughout professional military education, so, too, should the accessibility of colloquia like the aforementioned Joint Professional Military Education Scholarship of Teaching and Learning Forum and publications like the *Journal of Military Learning*. World-class faculty share their discoveries and perspectives in their disciplinary fields of expertise, and they should do the same in the discourse of the scholarship of teaching and learning. By prioritizing, funding, publicly sharing, and applying the findings of applied educational research, professional military education institutions will take tangible steps toward achieving real intellectual overmatch.

<https://warontherocks.com/2020/08/how-can-we-know-if-professional-military-education-works/>

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RESEARCH:

Open for Autonomous Business: Largest-Ever Unmanned & Robotics Systems Research Contract Awarded for NPS

(NPS.edu 29 July 20) ... Office of University Communications

Military students at the Naval Postgraduate School (NPS) have firsthand experience with complex challenges in the fleet and the field. They come to NPS to work alongside expert faculty researchers to develop solutions to key operational problems. Combining the art and science of their NPS education, students engage in solutions-focused experimentation, invention and innovation to realize the full potential of emerging technologies, many of which are in the growing arena of intelligent autonomous systems.



Defense Technical Information Center (DTIC) awarded an Information Analysis Center (IAC) Multi-Award Contract (MAC) Task Order to Adams Communication and Engineering Technology, Inc. (ACET) to support NPS' largest-ever Task Order contract to expand partnerships in the development and fielding of autonomous systems and robotics – \$42.4 million. ACET, with support from their exclusive subcontractor Arizona State University Research Enterprise (ASURE), will provide NPS coordination and management for the contract's deliverables as defined in the Government's Performance Work Statement.

NPS is already the largest single contributor to the DTIC library, which supports all of the DOD, and this contract ensures that the knowledge generated by NPS and its partners will be rapidly incorporated and accessible.

The new contract vehicle increases access to work with NPS alongside student-faculty teams and collaboratively reach optimal results faster leveraging the readily accessible test ranges, labs and facilities. Sponsoring activities send funded projects to NPS who will work with DTIC to place task orders on the contract.

“NPS provides the interdisciplinary, defense-focused environment needed for the right mix of development and exploratory innovation,” said Dr. Ray Buettner, NPS associate professor of information sciences, and director of the Sea Land Air Military Research (SLAMR) initiative, who oversaw development of the new contract. “The Navy has many labs full of scientists and engineers, but the one thing they need, that NPS has, is the experience of our military student body to help guide development, and this new contract makes working with NPS very easy to do.”

Put another way, the best translator of operational need to the Naval research and development community is an experienced, NPS-educated operator.

The new contract award is timely. Recognition of NPS' ability to combine operational experience with research came in two recent developments: first, an update to the school's mission directing it to be more outcome-focused on “technological leadership,” and second, the formal inclusion of NPS into the Naval Research and Development Establishment (NR&DE), which comprises all Naval Warfare Centers, the Naval Research Laboratory and the Office of Naval Research.

Dr. Jeff Paduan, NPS dean of research explained that NPS, now as a chartered member the NR&DE, led by the Assistant Secretary of the Navy for Research, Development and Acquisition, “will have a seat at the Department of the Navy's (DON) research table when the lab directors meet.”

A new Memorandum of Understanding (MOA) between NPS and the Naval Undersea Warfare Center (NUWC) in Keyport, Washington, builds upon existing research relations in unmanned systems, and will focus on expanding technical coordination with NR&DE labs by leveraging the flexibility of the NPS' “.edu” networks creating a digital collaborative enterprise.

David Mortimore, senior technology advisor at NUWC Keyport, NPS liaison and PhD student will act as co-principal investigator for the digital enterprise framework that will improve connections between dispersed NR&DE collaborators and NPS. Mortimore said, “My work under the MOA will help NPS strengthen existing ties and lay the foundation for broader community formation, discovery and collaboration envisioned by Dr. Buettner, and real-time distributed R&D across the NR&DE.”

Every student at NPS must complete a research thesis or capstone project, explained Buettner. The new contract with ACET will expand student involvement in the design, development and testing of prototype hardware and software for unmanned and robotic systems. Buettner foresees this increased collaboration as expanding the value of NPS to naval forces.

One example Buettner used to illustrate the value of research collaboration with NPS was a small drone company that participated a recent Joint Interagency Field Experimentation (JIFX). The company demonstrated that autonomous drone technology used in agriculture had potential national security applications which lead to contracts with DARPA, the Army and Naval Air Systems Command. With the new DTIC contract in place the process is streamlined for sponsoring activities to engage NPS students and faculty directly in the prototyping process. The next JIFX at NPS will be September 14-17.

Buettner summarized the importance of the new contract to the future of NPS and DON, saying, “We are the only service that must have the capability and knowhow to apply and employ autonomous systems



effectively within and across all warfighting domains: at sea, ashore, air, space and cyber. Our new mission and new partnerships will enhance the research-based education here at NPS and accelerate delivery of technological advantages in intelligent autonomous systems.”

<https://nps.edu/-/open-for-autonomous-business-largest-ever-unmanned-robotics-systems-research-contract-awarded-for-nps>

<http://www.navydispatch.com/News2020/news0720/largest-unmanned-and-robotics-system-research-contract-awarded-for-NPS.html>

<https://www.santacruztechbeat.com/2020/07/30/open-for-autonomous-business-largest-ever-unmanned-robotics-systems-research-contract-awarded-for-naval-postgraduate-school/>

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DTIC Awards Navy Postgraduate School Contract for Unmanned, Robotics Research

(SEAPOW Magazine Online 29 July 20) ... Seapower Staff

The Defense Technical Information Center (DTIC) has awarded a \$42 million contract to Adams Communication and Engineering Technology (ACET) to support the Navy Postgraduate School (NPS) in its effort to expand partnerships in developing and fielding of autonomous systems and robotics, a July 28 NPS release said.

ACET, with support from their exclusive subcontractor Arizona State University Research Enterprise (ASURE), will provide NPS coordination and management for the contract’s deliverables.

Military students at the NPS have firsthand experience with complex challenges in the fleet and the field. They come to NPS to work alongside expert faculty researchers to develop solutions to key operational problems.

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<https://seapowermagazine.org/dtic-awards-navy-postgraduate-school-contract-for-unmanned-robotics-research/>



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ASU Research Enterprise Awarded Contract to Advance Unmanned and Robotic Technologies

(Arizona State University 31 July 20) ... Michelle Stermole

ASU Research Enterprise (ASURE) has been awarded a contract that could total as much as \$42.4 million over the next five years to advance unmanned and robotic technologies and weapons systems.

The Naval Postgraduate School in Monterey, California, awarded \$12 million now to the Arizona State University-affiliated applied research lab to solve the initial task and is offering the opportunity for an additional \$30.4 million for subsequent tasks. There are nine task groups in total and, according to Naval Postgraduate School, this is the school's largest task order contract ever awarded for unmanned systems and robotics. It is also the largest contract ASURE has been awarded.

"This is the biggest award we've ever had," said Claudia EIDib, program manager for ASURE, adding that completion of this opportunity could pave the way for additional grants for ASURE.

ASURE is a nonprofit organization and exemplifies a new prototype for the academic applied research lab that leverages ASU's innovative resources to rapidly solve grand challenges with high-impact solutions for local, state and national government agencies and companies. ASURE's expertise centers on translating ideas into dual-use solutions for technology, engineering, safety and security sectors, meaning they solve for commercial and military problems.

ASURE will work closely with Ira. A. Fulton Schools of Engineering faculty who want to participate in research, analysis and prototype development of hardware and software for use by U.S. military, civilians and U.S. partner nations. Faculty will focus on artificial intelligence, cyber solutions, weapons payloads, navigation and intelligence sensors and many other areas related to robotics and unmanned technologies.

"This collaboration leverages the multidisciplinary expertise that exists within the Fulton Schools and ASURE's objective of conducting applied research," said Kyle Squires, dean of the Fulton Schools at ASU. "Our faculty has made significant progress to achieve broader technological capabilities and understandings of these areas in recent years, so we are eager to work with partners to develop and test robotic and autonomous systems."

The work is broad and covers a variety of areas so faculty from several specialties can participate, EIDib said. Some of the projects will be classified work, and ASURE can assist faculty who need to obtain credentials to pursue classified work, she said.

Historically, many products that are developed through these types of government research programs later become commonplace in the civilian market — such as plastic containers, GPS systems and cybersecurity, EIDib said.

"Upon completion of the projects, ASURE and ASU would be talked about not just in a naval context but with other government institutions," she said. "The impact could be profound."

<https://asunow.asu.edu/20200731-asu-research-enterprise-awarded-contract-advance-unmanned-and-robotic-technologies>

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FACULTY:

Military Expert Criticizes U.S. Defense Posture

(The Independent 30 July 20) ... Jeff Garberson

A defense expert last week presented a highly critical picture of America's approach to national security.



He argued that frequent military interventions overseas are counterproductive and that relying on large, expensive military platforms like aircraft carriers makes the nation more vulnerable. He further stated the U.S. needs to shift its national security focus toward newer topics like cyberwar, the development of smart weapons using artificial intelligence and response to pandemics.

That expert is **John Arquilla, Distinguished Professor of Defense Analysis at the Naval Postgraduate School** in Monterey. His talk, which was live-streamed, was presented by Livermore's Rae Dorough Speaker Series.

The talk replaced one originally planned for a live audience in Livermore's Bankhead Theater in March, just as California shut down mass gatherings. Arquilla learned that his talk was postponed only after arriving in Livermore from Monterey.

His general view is that the U.S. spends enormous amounts of money – "\$2 billion per day" – on military systems that are not likely to achieve their desired results.

"Just because we're spending \$2 billion a day doesn't mean we're spending it well," he said. "What should we be investing in? What is national security about?"

He pointed out it is necessary to think "expansively" about national security, meaning that security encompasses much more than military battles.

"We're in an age of mass disruption, whether from microbes or computer viruses or other threats," he said. "Remember that on 9/11, it took just 19 individuals to disrupt our world economically, socially and in terms of our foreign policy as well."

As for pandemics, he noted that there is "no excuse for the effects of the (COVID-19) pandemic as we have experienced them." Diseases have jumped from animals to humans repeatedly in recent decades, and we have had "lots of opportunities" to learn how to deal with them. As examples, he cited AIDS, MERS (Middle Eastern respiratory syndrome,) SARS (severe acquired respiratory syndrome) and Ebola.

"Our response to the Ebola crisis was quite effective," he said, suggesting that we could have handled today's crisis better by adapting lessons from the previous experience.

Regarding the current political season and elections, he said, "Our security has to be very much improved at the cyber level, lest we fall victim to political warfare activities of hostile powers."

Industrially, we are already "hemorrhaging our economic competitiveness out to hackers," he said, referring to widely publicized theft of an estimated \$500 billion in American intellectual property by Chinese and other computer intruders.

He believes the computer security problem is "getting worse ... Now that your refrigerator and toaster can become part of the internet, they can be mobilized into large robot armies of computer hackers, and their power can be used." Many modern appliances can be connected to the internet for programming and remote operation from a computer tablet or smart phone.

Arquilla thinks the U.S. took a step in the right direction last week when it closed the Chinese consulate in Houston, allegedly a center for cyber espionage. But he stated that much more needs to be done, such as adopting strong encryption practices to make data difficult or impossible to exploit.

He noted this to be true for private home computers as well.

"You don't want someone to park outside your home and use a \$20 wand to get into your system," he said.

He believes that data would be more secure if cloud computing were more widely used. Cloud computing means storing and accessing information on the internet instead of retaining it on a computer's hard drive.

"Data at rest are data at risk," he said.

Even the military is moving too slowly in protecting its computers, he said, further adding, "It's extremely unhealthy for the national security."

In more traditional areas of military effort, he questioned the expenditure of "vast sums of money on a few large things." Nearly all U.S. naval power is "vested in less than a dozen super aircraft carriers," he said.

These are big, slow targets for modern anti-ship weapons ranging from hypersonic missiles to "smart" mines that pop up from the sea bottom when a hostile ship passes overhead.



“When it comes to aircraft carriers, we should paint over the number on the side and just replace it with a bullseye,” he said.

He described a recent Iranian naval exercise in which swarms of small missile boats attacked a mock U.S. aircraft carrier “and absolutely destroyed it. Real advances of naval power are in these small vessels armed with smart, swift weapons.”

China and Russia have also been “quite innovative” in their approaches to achieving modern military goals, he added.

On the ocean, China is “building a new form of sea power without a traditional navy.” It has “between 500 and 600 missile torpedo boats, very small, very swift, heavily armed, with all kinds of smart advanced weapons.”

Thousands of miles away, to help insurgents in eastern Ukraine after taking over Crimea, Russia sent in “little green men” – special forces instead of heavy tanks. Arquilla believes the Russians have shown that “they get it – that the future of war belongs to nimbler and more networked forces.”

Regarding nuclear weapons, he agrees with Ronald Reagan’s 1984 State of the Union message that “a nuclear war cannot be won and must never be fought.” He hopes to see a formal U.S. declaration that it will not be the first to use nuclear weapons.

He considers it “very dangerous” that all previous administrations worked on nuclear arms control, but this administration is not doing so.

He doubts that the U.S. needs more nuclear weapons but would like to see the present ones modernized since all have aged well beyond their designed life spans.

In his opinion, the time is past when the U.S. needed a so-called “nuclear triad,” in which nuclear weapons are dispersed for security on land, in the air and underwater – that is, in silos, on aircraft and on submarines. Missile-carrying submarines alone offer an invulnerable deterrent, he believes.

Beyond modernizing its military tactics and platforms, he thinks the U.S. needs to focus on its own problems, rather than trying to correct other nations.

“We have to stop threatening regime change,” he said. “The planet may be unlivable by the end of this century (because of climate change), so we need to prioritize things (at home) ... rather than trying the reroute currents of culture and history by forcing others to become more democratic and putting sanctions on them if they’re not doing things that we want.”

Generally speaking, he hopes the U.S. will return to diplomacy and arms control, indicating that we should “turn our backs on this notion that somehow American foreign policy can and should be driven by the threat of military force.”

In some of its recent interventions, invading Iraq and Afghanistan and allying ourselves with Saudi Arabia doing battle in Yemen, he said, “We’ve gone down a rabbit hole, and it has cost us tremendously.”

“The results have been poor, and we have sparked a new age of military competition in the process,” Arquilla concluded. “All this is really a boomerang coming back to hit us.”

https://www.independentnews.com/news/military-expert-criticizes-u-s-defense-posture/article_1f589d88-d217-11ea-b66b-3ba6db5c592d.html

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Navy Tech Optimizes UAV Flight Path for Imagery Collection

(TechLink 31 July 20)

Scientists at the Naval Postgraduate School in Monterey, California, have filed a patent application for a new software technology that optimizes unmanned aerial vehicles flight path to maximize data collection from multiple targets.

NPS’ Isaac Ross, Ronald Proulx, and Mark Karpenko invented the “higher fidelity solution” for UAV trajectory path and payload tasking to get more value from a mission.



The tech aims to “eliminate many of the heuristics, simplification steps, and iterative loops associated with prior art UAV payload tasking methods by considering the entire tasking problem as a single integrated dynamic optimization problem,” according to the patent application made public on Thursday.

This high-tech payload tasking solution can be accessed by qualified UAV companies via a license agreement with NPS.

<https://techlinkcenter.org/news/navy-tech-optimizes-uav-flight-path-for-imagery-collection>

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The Exaggerated Threat of Oil Wars

(Lawfare 2 Aug 20) ... **Emily Meierding, Ph.D., NPS Assistant Professor of National Security Affairs**

Over the past year, Chinese seismic survey vessels and their paramilitary escorts have interfered repeatedly with Vietnamese and Malaysian oil and natural gas exploration in the South China Sea, harassing drilling rigs and support ships. These confrontations have prompted concerns that they could provoke a larger military conflict, especially as China exploits the unsteadiness created by the coronavirus to become more aggressive in its various international territorial disputes.

Happily, the historical record indicates that China and its neighbors are unlikely to escalate their energy sparring. Contrary to overheated rhetoric, countries do not actually “take the oil,” to use President Trump’s controversial and inaccurate phrase. Instead, my recent research demonstrates that countries avoid fighting for oil resources.

No Blood for Oil

Between 1912 and 2010, countries fought 180 times over territories that contained—or were believed to contain—oil or natural gas resources. These conflicts ranged from brief, nonfatal border violations, like Turkish jets entering Greek airspace, to the two world wars. Many of these clashes—including World War II, Iraq’s invasion of Kuwait (1990), the U.S. invasion of Iraq (2003), the Iran-Iraq War (1980-1988), the Falklands War (1982), and the Chaco War between Bolivia and Paraguay (1932-1935)—have been described as classic oil wars: that is, severe international conflicts in which countries fight to obtain petroleum resources.

However, a closer look at these conflicts reveals that none merits the classic “oil war” label. Although countries did fight over oil-endowed territories, they usually fought for other reasons, including aspirations to regional hegemony, domestic politics, national pride, or contested territories’ other strategic, economic, or symbolic assets. Oil was an uncommon trigger for international confrontations and never caused major conflicts.

On approximately 20 occasions, over almost a century, countries engaged in minor conflicts to obtain oil resources. However, these “oil spats” were brief, mild, mostly nonfatal, and generally involved countries whose hostility predated their resource competition. Greece and Turkey have prosecuted oil spats. So have China and Vietnam, Guyana and Venezuela, and a dozen other pairs of countries. These confrontations inspired aggressive rhetoric while they were underway, but none of them ever escalated into a larger armed conflict.

Oil has periodically influenced the trajectories of major conflicts that were launched for other reasons. At the end of World War I, British troops seized Mosul province in order to secure its oil resources. Oil aspirations also motivated Germany’s invasion of the Russian Caucasus (1941-1942) and Japan’s invasion of the Dutch East Indies (1941-1942). While the latter attack precipitated U.S. involvement in World War II, it was also a continuation of the Second Sino-Japanese War (1937-1945). All of these “oil campaigns” were inspired by aggressors’ wartime resource needs. Absent the ongoing conflicts, these countries would not have fought for oil.

The historical record also reveals one “oil gambit”: Iraq’s invasion of Kuwait in 1990. Conventional explanations for the attack assert that Saddam Hussein was either greedily attempting to grab his neighbor’s oil resources or needily attempting to limit Kuwait’s oil output in order to raise oil prices and



escape from a deepening economic crisis caused by falling oil prices and Iraq's large debts, incurred during the Iran-Iraq War. The first explanation is wrong. The second is correct, but incomplete, because it omits Saddam's larger motive for aggression: his fear of the United States. The regime's records, seized during the 2003 U.S. invasion, reveal Saddam's belief, nurtured since the 1970s, that the United States was determined to contain Iraq and remove him from power. In 1990, this false conviction led Saddam to assume that the United States was engineering Iraq's economic crisis by encouraging Kuwait and the United Arab Emirates to exceed their OPEC oil production quotas and refuse Iraq's repeated entreaties to cancel its war debts. After his infamous meeting with U.S. Ambassador April Glaspie failed to persuade Saddam of the United States's benign intentions, he concluded that conquering Kuwait was his only remaining means of survival. Fear of U.S. hostility, not oil aspirations, prompted Iraq to invade Kuwait.

A Question of Value

The absence of oil wars is surprising and counterintuitive. Petroleum is an exceptionally valuable resource. It fuels all countries' economies and militaries. Oil sales are also a crucial revenue source for producer states. Surely, countries are willing to fight to obtain petroleum resources.

In fact, classic oil wars are extraordinarily costly. A country that aims to seize foreign oil faces, first, the costs of invading another country. International aggression is destructive and expensive under the best of circumstances. It may also damage the oil infrastructure that a conqueror hopes to acquire. Next, if a conqueror plans to exploit oil resources over the long term, it faces the costs of occupying seized territory. As the United States has learned from its "endless wars," foreign occupation is extremely challenging, even for the world's most powerful country.

Additionally, a conqueror faces international approbation for oil grabs. As censorious responses to Trump's proposition that the United States "take the oil" from Syria, Iraq and Libya have indicated, seizing another country's oil is considered reprobate behavior. It violates international laws against plunder and materially threatens to consolidate control over global oil resources. As Iraq learned in 1990, other countries and international institutions respond to oil grabs with diplomatic censure, economic sanctions and even military force. Finally, if a conqueror manages to maintain control over foreign oil resources, it may not be able to exploit them. Conquest scares off the foreign oil companies that many countries rely on to finance and manage oil production.

Because of the high costs of invasion, occupation, and international opprobrium, classic oil wars are simply not worth the effort, regardless of petroleum's value. Countries may occasionally decide that it is worth initiating an oil spat to obtain desired resources, especially when targeted territories are contested, and other issues are at stake. However, fighting major conflicts for oil does not pay.

Keep Your Eyes Off the Prize

All of this is good news for stability in the South China Sea and other oil-rich regions. There is no reason to expect that China's recent energy sparring with Vietnam and Malaysia will escalate into a larger international conflict, at least with regard to the oil at stake. Oil spats never do, no matter how acrimonious they appear while underway.

That being said, China and its neighbors could still fight for other reasons. The South China Sea's abundant but impacted fisheries are a critical food and livelihood source for the littoral states' populations. Critical sea lines of communication pass through the region. And China has attempted to extend its hegemonic influence in the South China Sea by refusing to abandon its legally untenable "nine-dash line" maritime claim and by constructing artificial islands on numerous maritime features. Any of these factors could spark a larger international conflict.

This also means that the low oil prices that are expected to accompany peak oil demand will not produce a peace dividend. Countries won't engage in fewer conflicts as oil's value declines, because they weren't fighting over oil in the first place.

It's tempting to use oil to explain armed conflict. Oil is valuable and tangible, so it seems to be an obvious target for international aggression. In contrast, factors like hegemonic aspirations and national pride are amorphous and their value hard to quantify. Yet, historically, these other factors have caused



significant numbers of severe international conflicts, while petroleum has not. To effectively discourage conflict escalation in the South China Sea and elsewhere, policymakers need to focus on these factors, and resist being distracted by oil.

<https://www.lawfareblog.com/exaggerated-threat-oil-wars>

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ALUMNI:

Arlington Police Chief Jay Farr to Retire in September

(Patch.com 27 July 20) ... Michael O'Connell

Chief Murray "Jay" Farr will be retiring Sept. 4, after a 30-year career at the Arlington County Police Department, according to a release.

During his tenure, Farr, who has been Arlington's chief of police since May 2015, has focused on transportation safety, community engagement, and the prevention and control of crime in the county. He also launched a partnership between the county, business and community called the Arlington Restaurant Initiative, making Arlington a safe destination for nightlife and entertainment.

"It has been an honor and privilege to serve the residents, businesses, and visitors of Arlington Count," Farr said, in the release. "I am incredibly proud of our officers and their efforts to maintain a high level of public safety across our community."

County Manager March Schwartz praised Farr's leadership, calling it instrumental in advancing community policing across Arlington.

"On behalf of all County Board members, I want to thank Chief Farr for his years of exemplary service in one of the toughest jobs, Chief of Police. Jay has guided our police force into 21st Century community policing," County Board Chair Libby Garvey said, in the release. "He has made ACPD one of the most respected police departments in the region and positioned us well to work with our community as we transition into the next era of policing and public safety that makes everyone feel safe."

During his 30 years at ACPD, Farr served in a variety of roles, including as deputy chief of police for systems management, operations, and criminal investigations, and acting deputy county manager. He's been an active member of the Metropolitan Washington Council of Governments, where he served as the chairman of the Police Chief Committee.

Before Farr came to ACPD in 1990, he worked with the Naval Criminal Investigative Service. A U.S. Marine Corps veteran, he served with the presidential helicopter unit. He has both a bachelor's and master's degrees from George Mason University and **took park in advanced educational programs at the Naval Post Graduate School Center for Defense and Homeland Security**, the FBI National Academy, and the Senior Institute for Police Management. He's also a graduate of Leadership Arlington and an adjunct professor at GMU, where he teaches a curriculum of criminal justice and emergency management for law enforcement.

The Arlington County Manager will conduct a national recruitment effort to find Farr's successor this fall.

<https://patch.com/virginia/arlington-va/arlington-police-chief-jay-farr-retire-september>

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Chesterfield Native Promoted to U.S. Navy Lieutenant Commander aboard USS James E. Williams

(The Progress-Index 29 July 20) ... Michael O'Connell



Lt. Sean Harney, a native of Chesterfield, Virginia, was promoted to the rank of lieutenant commander during a ceremony held on board USS James E. Williams, a guided missile destroyer, currently deployed in the Persian Gulf.

Harney, who has served in the Navy for eleven years, is a department head responsible for 55 sailors and all combat systems gear on board the ship. Additionally, Harney is responsible for watch bills and the qualification progress of all surface warfare officers.

"My favorite part is the people that I work with," Harney said. "The job is challenging; however, the sailors are the backbone of what makes the ship run. Their motivation and willingness to adapt and overcome obstacles is amazing."

James E. Williams is an Arleigh Burke-class guided-missile destroyer named in honor of Chief Boatswain's Mate James E. Williams, one of the Navy's most highly decorated enlisted sailors. Guided-missile destroyers are multi-mission surface combatants capable of conducting anti-air warfare, anti-submarine warfare, and anti-surface warfare.

Harney, a 2008 graduate of Longwood High School and 2017 graduate of Naval Postgraduate School, joined the Navy to pursue a career in orthodontics.

"I also wanted to start a family, so my wife and I, decided that our best option for a secure future was the military," Harney said.

According to Harney, the values required to succeed in the Navy are similar to those found in Chesterfield.

"Honestly, all of my teachers and guidance counselors when I was young, was my motivation to strive for excellence because they told me I would never go to college or accomplish anything I wanted to in life," Harney said. "Soccer was a big part of my leadership development, as well as my parents and their guidance."

As a member of the U.S. Navy, Harney, as well as other sailors, know they are a part of a service tradition providing unforgettable experiences through leadership development, world affairs and humanitarian assistance. Their efforts will have a lasting effect around the globe and for generations of sailors who will follow.

"Serving in the Navy means that I can take care of issues abroad and protect those at home," Harney added. "It means I can support my family and give them everything they could want. It gives me a sense of pride to know that I defended freedom and democracy around the world."

<https://www.progress-index.com/story/news/military/2020/07/29/chesterfield-native-promoted-to-us-navy-lieutenant-commander-aboard-uss-james-e-williams/112569228/>

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Mayor Bollwage Announces New Elizabeth Police Chief

(Tap into Elizabeth 31 July 20) ... Madeline Thigpen

Giacomo Sacca will succeed John Brennan as Chief of the Elizabeth Police Department, Mayor Bollwage announced Thursday.

Sacca joined the Elizabeth Police Department in 1995. He was promoted to Sergeant in 2005, Lieutenant in 2009, Captain in 2013 and Deputy Chief in 2018.

"He is a genuine, transparent person of integrity and his respect for our constituents and previous positions in the Police Department make him most qualified for his new role as Police Chief," said Police Director Earl Graves. "I look forward to continuing to work with him in improving the quality of life in our City."

As Deputy, Sacca oversaw the daily operations of the police force including maintaining appropriate levels of staffing throughout the department. He was also responsible for ensuring that police services were properly implemented in the community.

Since joining the force twenty-five years ago Sacca has continued his education. In 2015, he earned a bachelor's degree in Homeland Security and Emergency Management from Thomas Edison State



University. **He went on to earn his Master's in Security Studies at the Naval Postgraduate School Center in 2017.**

“Chief Sacca is a strong proponent and practitioner of community-oriented policing,” said Mayor Bollwage. “Throughout his career, he has invested in relationships with his superiors, staff and all segments of his community.”

<https://www.tapinto.net/towns/elizabeth/sections/police-and-fire/articles/mayor-bollwage-announces-new-elizabeth-police-chief>

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Integrated Warfare Systems Awards NSWC PHD's Juan Carlos Gordillo the Civilian Service Achievement Medal

(DVIDS 3 Aug 20) ... Carol Lawrence

As deadlines tighten and requirements get tougher and more complex, that's when Juan Carlos Gordillo shines as brightly as the Navy medal he just received.

Rear Admiral D. W. Small, program executive officer, integrated warfare systems, awarded Gordillo the Civilian Service Achievement Medal recently for leading teams the past five years on nearly 100 successful modernizations aboard littoral combat ships.

Gordillo, in his role as a Combat Systems Project Engineer (CSPE) and test coordinator for Littoral Combat Ship (LCSs) with Naval Surface Warfare Center, Port Hueneme Division, now temporarily working aboard USS Zumwalt (DDG 1000) and stationed at San Diego, oversaw and resolved complex issues that “directly increased mission readiness, enhanced overall capability and brought uniformity” to the entire LCS class of ships, specifically USS Freedom, USS Independence, USS Fort Worth and USS Coronado, wrote Small in his award letter.

The medal caught the **recent Naval Postgraduate School graduate** completely off guard, he said.

“This is an honor,” Gordillo said. “Medals are harder to receive, and they represent more than just a pat on the back. At the ceremony, I thought I was just getting something like a Letter of Commendation, but when they put a medal up on the screen, I was floored! My thanks go to all the teams that helped me achieve this honor.”

His nomination, written by the program office, commends Gordillo for his “remarkable degree of expertise and professionalism” as well as “exceptional expertise and unparalleled resourcefulness.”

Nominating Gordillo was an easy decision, said Robin Nussear, LCS seaframe sustainment project manager, who commented on behalf of the program office.

“Juan Carlos never shies away from taking on the tough tasks, and always demonstrates the highest levels of dedication to the mission,” Nussear said. “Not only does he excel when the pressure is on, but he does it with a smile and in a way that makes those around him more productive and feeling better to have worked with him. He is the true embodiment of what it means to be a professional.”

The medal is just the latest of Gordillo's honors, which include two On-the-Spot awards and a Letter of Commendation, for the short five years he's been a Navy employee.

Gordillo said he was a bit of a late bloomer, Navy-wise. The Monterey, California native joined the Navy at 28 after moving back to the U.S. from Lima, Peru and became a hull technician aboard USS Gonzales.

While still on active duty, he was next stationed in Little Creek, Virginia at the Personnel Support Detachment as a personnel specialist until 2009. He transitioned to work on the LCS program with Lockheed Martin Corp. and served in the reserves for another four years. In 2014, Gordillo joined PHD as a CSPE contractor and returned to the government world as a civilian the following year in the same position.

He attributes his desire for a naval career to the naval influence running through his family—an uncle, great grandfather and godfather were vice admirals; his father a naval officer, and his great uncle a Navy minister—all with the Peruvian Navy.



“Being born in that environment had an effect on me,” he said.

As one of the CSPEs for PHD, Gordillo leads teams of technicians as they integrate combat systems on 16 LCSs during CNO availabilities. When technician teams come aboard to do installations of an average of 25 different systems and equipment, Gordillo is the one who makes sure the systems work doesn’t conflict with active systems on the ship, or with other systems getting worked on; and don’t overlap. He makes sure each team member has the needed support; that the ship’s crew is informed about the work being done and that all the installations are done correctly and following the appropriate rules.

The need to understand the interconnectedness of ships’ systems during alterations was so great that **Gordillo earned a second master’s degree—his first was in business administration—this one in systems engineering from the Naval Postgraduate School** and following in his father’s footsteps.

Among the 119 alterations Gordillo has overseen, two stand out as the most challenging. The conditions also hint at why the program office selected him for the achievement medal.

In 2016, the total system computer environment modernization on USS Independence not only started late in the game, making Gordillo scramble to get the technicians and equipment needed, but then the entire job lasted 10 months while most never go beyond two months.

“This was a complete overhaul of computer environments within a ship,” he said. “If it wasn’t for the team I had, it wouldn’t have been possible.”

While working at Lockheed in 2013, Gordillo and his team had to squeeze two weeks of installation work into nine days because the ship urgently needed to leave dry dock.

“I gathered my team in an office, and everybody started panicking; I told them to leave their emotions at the door,” Gordillo said. “We started brainstorming on what we had to do to finish. We came out three to four hours later, and then finished the installation within seven days. Probably the hardest time during that job was the 36-hour day in which I worked from 4 a.m. Friday and finished 4:30 p.m. Saturday. And then slept till Monday morning.”

Under these conditions Gordillo flips a switch and goes into “crisis mode.”

“I start beating it down—‘What is it we need? Do we need more overtime? More people?’ And I push for that,” he said. “Most of the time—not every job but most—we are successful at finishing (by the due date.)”

The “bold leadership, tenacity, and wise judgment” the program office lauds him for, Gordillo attributes to his family and the Navy.

“My dad always taught me to exhibit leadership at home, in the community and at work,” he said. “Leadership was taught to me by my parents, and then the Navy made it 10 times better.”

Gordillo credits his success to his immediate family, in addition to his teams.

“None of this would have been possible without the relentless support of my wife Ximena and my daughters Tabata and Nasca,” he said. “They always supported me when I travelled or worked weekends and long hours.”

<https://www.dvidshub.net/news/375160/integrated-warfare-systems-awards-nswc-phds-juan-carlos-gordillo-civilian-service-achievement-medal>

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Vice Adm. Kitchener Takes Command of Naval Surface Forces as Vice Adm. Brown Retires

(USNI News 3 Aug 20) ... Sam LaGrone

Vice Adm. Roy Kitchener has taken command of Naval Surface Force U.S. Pacific Fleet during a small ceremony in San Diego, Calif., the Navy announced on Monday.

Kitchener, formerly the commander of Naval Surface Force Atlantic, relieved Vice Adm. Richard Brown, who is retiring from the service after 35 years.



“I am thankful for Vice Adm. Brown’s leadership the past two and a half years. His focus on good stewardship, professional development and safety were the catalyst for rebuilding a better and smarter force of combat-ready ships and battle minded crews,” Kitchener said in a statement.

While SWO Boss, Brown was responsible for implementing many of the changes in training surface warfare officers that were set in motion after the fatal 2017 collisions in the Western Pacific that killed 17 sailors.

The Navy created the Readiness Reform and Oversight Council, initially led by Vice Chief of Naval Operations Adm. Bill Moran, to oversee improvements to surface readiness training. It provided service leaders with 111 recommendations, 47 of which were specific to surface warfare and have been implemented, Brown said in January.

“I have been advocating that the RROC remain in place for years to come – it is a focusing and barrier-removal organization second to none,” Brown said during the Surface Navy Association symposium in 2020. “Where there was a lot of angst about the RROC and providing oversight and they’re going to get into our stuff, the surface community actually embraced it and said, more of it.”

Changes included a retooled surface warfare officer career path that emphasized mariner fundamentals, mandating SWOs record their watches and training in a “Surface Warfare Mariner Skills Logbook,” and the stand-up of two new training centers on each coast. Brown also oversaw the establishment of the San Diego-based Surface Development Squadron (SURFDEVRON) 1 to test new surface warfare concepts and work with unmanned surface vessels as they are integrated into the fleet.

“Today, I can proudly say that we only deploy ships that have the required manning, are fully certified, and materially ready. That isn’t possible without the hard work and dedication of the SURFPAC staff and the great crews of our ships,” Brown said in a statement today.

Kitchener, originally from Connecticut, graduated from Unity College in 1984 and commissioned via Officer Candidate School in Newport, R.I. **He attended the Naval Post Graduate School, where he specialized in Western Hemisphere studies and earned a Master of Arts degree in National Security Affairs.**

A career surface warfare officer, he commanded USS *John Paul Jones* (DDG-53), USS *Higgins* (DDG-76) and USS *Princeton* (CG-59), as well as Expeditionary Strike Group 2 prior to taking command of SURFLANT.

<https://news.usni.org/2020/08/03/vice-adm-kitchener-takes-command-of-naval-surface-forces-as-vice-adm-brown-retires>

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