



RESURRECTING WAR PLAN BLUE!

LEVERAGING ROBOTICS AND AUTONOMY IN FUTURE CONFLICT



Resurrecting War Plan Blue: NPS Workshop Re-examines U.S. War Preparedness

By Matthew Schehl

NPS recently concluded an intense concept generation workshop to explore new ways to augment the nation's resilience and ability to prepare for war – should the need arise – in a world increasingly defined by peer competition and robotics warfare.

Entitled “Resurrecting War Plan Blue,” the 13th annual NPS [Naval Warfare Studies Institute \(NWSI\) Warfare Innovation Continuum Workshop](#), held Sept. 21-24, brought together a diverse assembly of junior officers from NPS and other commands with early career engineers from industry, Navy labs and academia. Over three and a half days, they leveraged their operational and technical expertise to discover creative solutions to the complex security issues of protracted warfare, including forward base defense with partnered nations, autonomous logistics systems, industrial and infrastructural robustness, networked citizenry, applications of artificial intelligence and rapid military mobilization.

“This workshop works because we come together as a community of people who care about what happens in the future, and how to potentially integrate emerging technologies to make it a better future. One hundred percent of the participants walk away with a better appreciation for the challenges we have in the future and for the talent across the services and industry we have to address those challenges.”

–NPS Department of Operations Research Professor of Practice, retired Navy Capt. Jeff Kline

The virtual environment enabled this community to come together in an unprecedented way from far and wide, from across the Fleet and around the world.

Participants were presented with a vexing hypothetical scenario: in the wake of the COVID-19 pandemic and the rise of segregated, national economies and great power competition, prepare the nation to respond to international crisis and eventual armed conflict by 2035. Specifically: *how might emerging technologies; concepts; joint, combined and coalition forces contribute to enhancing the resiliency of naval forces, logistics, and support facilities in an extended campaign against a peer adversary?*

The theme “Resurrecting War Plan Blue” harkens back to nearly a century ago, when the United States military developed a series of color-coded war plans to strategically explore hypothetical conflicts with a range of nations. Of these plans, War Plan Blue examined preparations the U.S. must make in a time of peace to respond to, sustain and ultimately triumph in war, regardless of adversary.

The United States, Kline recently [wrote](#), is in need of a new War Plan Blue effort “to absorb initial contact, employ follow-on forces, sustain those forces, and, if necessary, mobilize the nation for an extended conflict.”

Read the [full story](#) at the NPS website.

NAVAL POSTGRADUATE SCHOOL

UPDATE

NPS

- p2 Artificial Intelligence Leaders Discuss AI for National Security in NPS' Guest Lecture
- p4 NPS Intelligent Systems Consortium Links Field Experts and Research Opportunities
- p5 NPS' Data Science, AI Certificate Programs Support DOD Workforce Development
- p6 New Critical and Strategic Thinking Course Responds to DOD's Latest Guidance
- p8 Marine Corps' Landmark Ph.D. Program Celebrates First Technical Graduate

Military Family Month

National Disability
Employment
Awareness Month

November 2020

Artificial Intelligence Leaders Discuss AI for National Security in NPS' Latest Guest Lecture

By MC2 Tom Tonthat

NPS hosted two of the Joint Artificial Intelligence Center's (JAIC) most senior leaders, retired Air Force Lt. Gen. John N.T. "Jack" Shanahan, the inaugural and former Director, and Nand Mulchandani, the current Chief Technology Officer, to speak to students, faculty and staff about their experiences organizing efforts to develop artificial intelligence (AI) projects on a DOD scale during NPS' latest virtual Secretary of the Navy Guest Lecture (SGL), held Oct. 13.

Retiring earlier this year after serving as JAIC's first director, Shanahan opened the talk by briefly reviewing how the JAIC evolved from an Algorithmic Warfare Team synthesizing DOD's sheer volume of collected full-motion video data, called Project Maven, into a joint platform to harness the "game-changing power of AI."

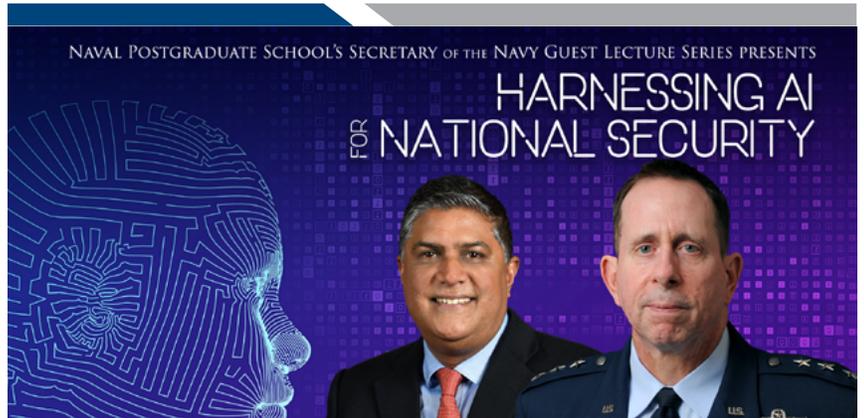
"Project Maven was focused on the intelligence enterprise to automate, accelerate and augment the processing, exploiting and dissemination of intelligence," said Shanahan. "Humans were doing mind numbing duty looking at video screens 12 hours a day. We really needed something that would allow us to begin to really accelerate the adapting, fielding and scaling of existing AI into capabilities, and that is how [JAIC] got started into the fielding and scaling of AI for the whole DoD.

"From undersea to outer space and cyberspace, from the back office to the battlefield, there is no mission in the DOD that will not be enhanced in some way by AI," continued Shanahan. "What I believe the JAIC will be known for in five years is building a joint common foundation focused on product development, and a distinct focus on end-user experience and interface where warfighters can come in and get access to the data and operational tools they need."

As JAIC grew and expanded from a small team to a staff of more than 200 people, Shanahan reflected on the single most important hire he made in standing up the organization, bringing in Mulchandani as the Chief Technology Officer. Mulchandani, who has 25 years of experience in the technology industry as a serial entrepreneur and senior executive, brought key understanding of turning project management into product development which changed the entire organization from the beginning, according to Shanahan.

"The work that he and I did in terms of teaming up where [Shanahan] being the classic CEO founder type, combined with the best of product development, I think that was the most powerful combination in founding AI for the DOD," said Mulchandani. "One thing that startups do incredibly well is finding canonical patterns and building a highly-leveraged conclusion that they can attack in a very low cost but highly leveraged way. That's the whole point of having a common infrastructure where you can find a pattern and then create a repeatable pattern and scale it to a point where everybody with an engine across the DOD can utilize this pattern."

The presentation was broadly acclaimed. Distinguished Professor Peter Denning, Director of the university's new Consortium for Intelligent Systems Education and Research (CISER) called the presentation one of the best yet.



Former Director of the U.S. Department of Defense Joint Artificial Intelligence Center (JAIC) Retired Air Force Lt. Gen. John N.T. "Jack" Shanahan and JAIC Chief Technology Officer Nand Mulchandani speak to Naval Postgraduate School students, faculty, and staff about their experiences organizing branching AI projects into a DoD scale that can be harnessed for national security during the latest virtual Secretary of the Navy Guest Lecture (SGL), Oct. 13. (U.S. Navy graphic by Andre Adams)

"This was the first time I've heard such a coherent and visionary view of what the DOD can accomplish and how the JAIC can facilitate," said Denning. "Everything they said made sense. I loved the principles about integrating the four areas of concern, about centralized direction and decentralized implementation, about putting ethics in the forefront of conversations, and about having great relations with our allies. It stimulated the liveliest discussion I've seen so far in an VSGL."

In routine SGL fashion, Shanahan and Mulchandani also fielded questions at the conclusion of their primary remarks. When Marine Corps Master Sgt. Travis Hollingshead, an NPS student pursuing a Master of Applied Cyber Operations degree posed a question about the role of active duty military members within the JAIC's current environment, recently-confirmed JAIC Director Marine Corps Lt. Gen. Michael Groen, made a surprise appearance on Mulchandani's virtual feed and answered that question.

"What we need are warfighters," said Groen. "We need people who understand how decisions are made and how our decisions are structured. We can have all the genius data scientists in the world, but we need somebody who can sit down with a fires [lethal effects] expert, somebody who understands the rules, the outline, the process, and what data informs the decision. If you don't have that level of decision expertise, artificial intelligence applied to the decision is useless.

"We want to build the education pipeline for different work roles in the AI business," Groen continued. "People touch AI in different ways, there are builders, users and employers, and each one of those skill sets are necessary for us to have a comprehensive understanding of not only bringing AI to the table, but what table to bring it to and what it is supposed to do when it gets there. That's where having uniformed experts who are really good at the craft can extend their knowledge to AI realm to do data science."

To watch the complete lecture and student Q&A session with retired Air Force Lt. Gen. John N.T. "Jack" Shanahan and Mr. Nand Mulchandani, visit the [SGL website](#) or [NPS YouTube](#) channel.

The Naval Postgraduate School proudly presents

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“Critical Allies: The U.S. / Republic of Korea Alliance”



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U.S. Ambassador to the Republic of Korea **Harry Harris** is the first Asian-American to hold four-star rank in the U.S. Navy and the first to head U.S. Pacific Command (USPACOM), now known as the Indo-Pacific Command (INDOPACOM), from May, 2015 to May, 2018. He was nominated by President Trump on May 23, 2018 and confirmed by the United States Senate on June 28, 2018. Prior to USPACOM, he commanded the U.S. Pacific Fleet. From 2011 to 2013, Ambassador Harris served as the representative of the Chairman of the Joint Chiefs of Staff to the Secretary of State. In this role, he traveled to over 80 countries with the Secretary and participated in most of the Secretary's meetings with foreign leaders.

Born in Japan and reared in Tennessee and Florida, Ambassador Harris graduated from the U.S. Naval Academy in 1978. He holds master's degrees from Harvard's Kennedy School of Government and Georgetown's School of Foreign Service. His father served in the U.S. Navy, and was a veteran of both World War II and the Korean War. Ambassador Harris is married to Ms. Bruni Bradley, herself a career Naval officer.

V-SGL series page
www.nps.edu/sgls

Viewing link
www.nps.edu/web/video



New NPS Intelligent Systems Consortium Links Field Experts and Research Opportunities

By Rebecca Hoag

Artificial Intelligence (AI) is widely recognized as a critical and decisive capability in future warfare and national defense. It is featured prominently as a technology that must be mastered by high-level strategic groups in DOD and by the National Security Commission on AI. It creates far-reaching possibilities for disruptive innovation.

The Naval Postgraduate School (NPS) is the Navy and Marine Corps graduate school for science, math, engineering and technology (STEM). Because the challenge of using AI effectively in the military is multidisciplinary, NPS is a perfect environment for intelligent systems experts with military interests to congregate. Sixty NPS faculty, led by Distinguished Professor of Computer Science (CS) Dr. Peter Denning, recently formed the Consortium for Intelligent Systems Education and Research (CISER) to enable precisely that. CISER breaks down barriers to quick synthesis of innovative solutions and provides DOD-relevant answers to difficult strategic problems involving AI.

Through its support of [online certificates](#), the consortium focuses its efforts on increasing fluency in AI and data science (DS) throughout the Naval workforce. Through its support of research, the consortium focuses on research in grand challenges in AI and DS in cooperative research projects with industry in nearby Silicon Valley and elsewhere. The consortium also collaborates with the Navy's Warfare Centers, all focusing on transitioning AI and DS technology into operational use.

CISER hosts [Harnessing AI](#), the acclaimed video course introducing AI and DS to the naval workforce. CISER supports the DOD's Joint Artificial Intelligence Center (JAIC), which has designed an introduction to AI course for the DOD that includes portions of the [Harnessing AI](#) course.

"I think it's imperative that NPS has a role here because we're able to bring the operationally current students that we have together with the education that we offer in a secure environment to be able to deliver solutions to the Department of Defense that it needs," Dr. Rob Dell, Acting Provost and Academic Dean, says. Dell is a founding member of CISER's board of advisors.

Denning has personally witnessed the emergence and growth of the AI and DS fields since the 1960s. He recalls that early pioneers thought AI would be so advanced by the 2000s that humans wouldn't be able to distinguish whether they were talking via computer screen with a human or a machine.

Denning is worried that the current wave of enthusiasm about AI could lead to a third AI winter. With his retired colleague, Ted Lewis, he wrote an essay, [Intelligence May Not Be Computable](#), that sought to tamp down the hype and focus on the huge achievable benefits of AI. Denning and his CISER colleagues want to make sure that everyone talking about the fields understand what these systems can and can't do; what they should be used for and what they shouldn't. This way, research sponsors have realistic expectations.

"I hope that CISER can help clarify the function and role of artificial intelligence, especially in military decision making," says Matt Carlyle, OR Department Chair and CISER board member. "And getting past that veil, that sort of magical impression of AI, and having people understand practically what it does and what its benefits are and

what its real dangers are. I think that advocacy is really important for CISER and I think it's on the right path for doing that."

Even though the consortium is fairly new, it already supports three online certificate programs – one in AI for Military Use (set to begin in early 2021), one in DS for Military US (already running full cohorts twice a year), and one in Innovation and Design. With these certificates, many students are or will soon be in the position to help DOD in AI and DS.

CISER also plans to host a "provocative speaker series" where AI and DS experts present their ideas on those complex topics, especially the ones with gnarly dilemmas.

"We are now exposing each other to our research so that we can combine research efforts in a more holistic fashion to answer the call to numerous requirements that exist from DOD sponsors across all services," says U.S. Army Lt. Col. Ross Schuchard, Assistant Professor of Operations Research and Technical Director of the Data Science Analytics Group (DSAG). He is also a CISER board member.

Schuchard says that bringing together AI and DS experts across DOD in a concerted effort will lead to a broadening of our knowledge base in these complex topics.

"The incorporation of successful AI and DS efforts through DOD requires a multidisciplinary effort rather than just individual lanes," he says.

CISER plans to partner with industry to tackle some of DOD's "grand challenges" relating to intelligent systems – challenges such as adversarial AI, trustworthy AI, the completely observable ocean, hidden underwater communications, analysis of threat and ethic responses, and mastering human-machine teaming. The consortium received seed funding from NPS to get started, and is looking for external financial support to start diving into these important issues for the DOD.



The Consortium for Intelligent Systems Education and Research, or CISER, connects NPS' intelligent systems and military experts to leverage the university's multidisciplinary expertise to provide innovative solutions and relevant insights into the strategic challenges posed by artificial intelligence. (Stock Graphic)

NPS' Data Science, AI Certificate Programs Support DOD Workforce Development

By Javier Chagoya

On Sept. 9, during the DOD's semi-annual Artificial Intelligence Symposium and Exposition, Secretary of Defense Mark Esper affirmed that the Joint Artificial Intelligence Center (JAIC) in partnership with the Naval Postgraduate School (NPS) and Defense Acquisition University will collaboratively develop an intensive six-week pilot course delivered to more than 80 defense acquisition professionals of all ranks and grades.



“These trainees will learn how to apply AI and data science skills to our operations,” Esper said in his remarks. “With the support of Congress, the Department plans to request additional funding for the services to grow this effort over time and deliver an AI-ready workforce to the American people.”

Just as the university's highly-regarded [Harnessing Artificial Intelligence](#) video course paved the way for its support of the pilot course, NPS is well positioned to support Esper's declaration for further workforce development through its existing Data Science Certificate, and an upcoming similar certificate program in Artificial Intelligence.

In the ongoing effort to expand the Navy's knowledge and expertise in the fields of data science and artificial intelligence, NPS faculty have developed courses that enable students to quickly gain insights in these critical disciplines. Data science programs are far from new at the university with coursework developed under the auspices of the NPS Data Science and Analytics Group (DSAG).

In addition to the advanced coursework developed through DSAG, leading faculty at the university recognized the broader interdisciplinary nature of the subject matter, and the expertise in residence at NPS. This led to the launch of a new effort coined CISER, or the Consortium for Intelligent Systems Education and Research, that takes a more wholistic approach to integrating education and research in intelligent systems (artificial intelligence, machine learning, and data science) across the university.

The result, officials note, is not only improved support for the certificate programs, but an improved capacity to support broader workforce development for the DOD, as well as the ability to lead advanced research in the intelligent systems space.

While the focus of CISER is new, the Data Science Certificate is

Building on the university's highly-regarded Harnessing Artificial Intelligence video course, current and new four-course graduate certificate programs in data science and artificial intelligence (AI) provide critical support to the Navy and DOD as these organizations seek to advance the development of their AI workforce. (U.S. Navy graphic by Andre Adams)

not, with two cohorts of professionals from diverse backgrounds and leadership levels benefitting from the four-course certificate programs. The third offering of the Data Science certificate begins in January 2021.

U.S. Army Lt. Col. Ross J. Schuchard is an NPS assistant professor of Operations Research (OR) and the Technical Director for DSAG. He's also a veteran of the Army's Future Command, U.S. Army Cyber Command and various government agencies.

“Demand for DSAG sponsored research and student enrollment in the data science certificate continues to grow at exceptional rates,” said Schuchard. “Based on current enrollment projections, the data science certificate program will graduate its seventh cohort of data scientists for DOD by the end of the summer term [of 2022].” NPS Lecturer Kevin Maher manages the Data Science Certificate and is the point of contact for the program.

“Data Science has emerged as an area critical to the mission of the Navy and the Department of Defense because of the central role it plays in intelligence, surveillance, reconnaissance, talent management, cyber-security, and other related areas of critical interest,” said Maher.

“A thorough understanding of the underlying infrastructure that supports Data Science as well as the statistical and machine learning methods employed is essential for the correct application and interpretation of results of a Data Science effort. The certificate program is designed to provide that skill set.”

For more information on the Data Science for Military, and AI for Military graduate certificate programs, visit the [CISER website](#).

New Critical and Strategic Thinking Course Responds to DOD's Latest Guidance

By MC2 Taylor Vencill

The Naval Postgraduate School (NPS) launched a new course for the summer quarter titled “Critical Thinking for Strategic Leadership,” responding directly to DOD education guidance to focus on critical thinking and using interdisciplinary and integrative approaches to solve warfighting problems.

National defense and military strategies alike are increasingly emphasizing the link between higher education and warfighting advantage, keying on advancements in critical thinking as a vital enabler and key skill for strategic leadership.

The National Defense Strategy, the Commandant's Planning Guidance, the Department of the Navy's Education for Seapower Strategy, and even a recent Chief of Naval Operations fragmentary order all call for the intellectual development of warfighters to improve critical thinking and interdisciplinary learning skills, as the nature of conflict changes, moving beyond the industrial age and into the cognitive and information age. Additionally, the National Defense Strategy directed military institutions to focus on critical thinking to encourage innovation.

Responding to this strategic guidance, Professor Mie Augier of the Graduate School of Defense Management, and a founding member of Naval Warfare Studies Institute, developed the new course, focused on how to cultivate some of the central skills, attitudes and aptitudes to think critically, and using those to strategically lead warfighting organizations.

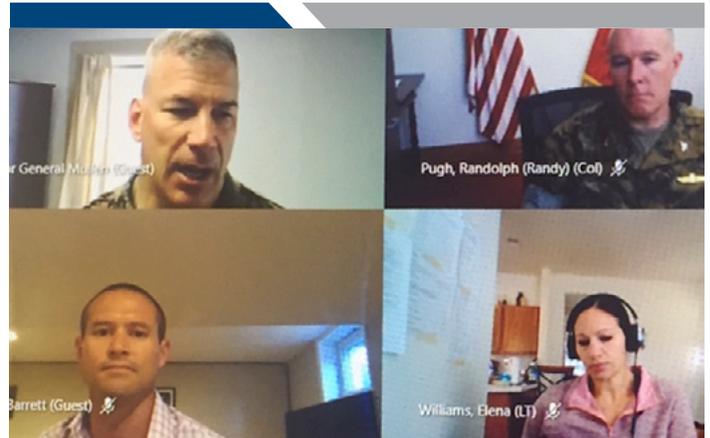
“The course examines key warfighting leaders and thinkers to understand and link their decision making to the underlying concepts and practices in critical and strategic thinking,” said Augier. “Moreover, we learn and discuss perspectives and ideas for how to be better strategic and critical thinkers, including how to cultivate lifelong learning, and being able to reframe problems to make sure we have better insight and understanding of them from different points of view.”

The course uses active learning approaches, included case studies and exercises. It also had interactive discussions with guests to help facilitate the intellectual growth of warfighter students. One such guest, retired Marine Corps Maj. Gen. William F. Mullen, then Commanding General of Marine Corps Training and Education Command, spoke on the topics of interdisciplinary thinking, learning and leadership for warfighting professionals.

Mullen emphasized themes such as the importance of dedicating oneself to learning as an essential element of professionalism, and of viewing the brain as a muscle that, like other muscles, needs exercise to avoid atrophy.

Mullen's discussion with the class gave a lasting impression on the students and altered the way some thought about education, and how they should continue to strengthen their minds.

“Mullen's discussion changed and influenced my prior thinking regarding reading,” said NPS student U.S. Navy Lt. Elena Williams. “One thing he said that stuck out was, ‘We view reading as work and not a leisure activity.’ Prior to his discussion, I thought of reading as



Retired Maj. Gen. William F. Mullen, former Commanding General of the Marine Corps Training and Education Command, was one of multiple senior Marine Corps leaders to offer guest lectures in the new course focused on strategic, critical thinking. Mullen discussed interdisciplinary thinking, learning and leadership for warfighting professionals. (Screen Capture courtesy Dr. Mie Augier)

work so I need to alter my perception and predetermined feelings towards reading to consider it an opportunity rather than a chore.”

Many of the themes discussed with Gray tied back to his strategic leadership and transformation of the USMC around maneuver ideas. For example, as Commanding General in the 2nd Marine Division, he developed a package of literature on maneuver warfare, set up a professional study group as well as a maneuver warfare board.

After hours discussions were focused on the merit of ideas, not rank, and during after action reviews, he was focused on what the Marines did and what they were thinking about it, more than ‘what’ they did – cultivating thinking and an awareness of the thinking and learning process. When Gray became Commandant, he institutionalized the intellectual renaissance underlying maneuver warfare; publishing a reading list for all Marines; revising the Marine Corps Institute's professional education curriculum, revitalizing the Command and Staff College curriculum and faculty, and founding Marine Corps University (MCU). His vision for the Marine Corps PME system was to teach critical thinking and judgment, not material to be memorized; and using active learning approaches.

The discussion with Gray and Wilson was a fitting conclusion for the course. Students had studied critical thinking, interdisciplinary learning, and how to use critical thinking in strategic leadership, and immediately got to the key points of the Maneuver Warfare Movement and quickly related it to the earlier discussions about the importance of lifelong learning.

Feedback from the inaugural, interdisciplinary cohort of students representing three of the university's four graduate schools was very positive. As Marine Corps Maj. Philip Schmitz noted, “The learning and discussions facilitated in this class are some of the deepest discussions I have been a part of in 18.5 years in the military, and it shouldn't have taken this long for that to occur. I walk away from class with more energy than I started with—that to me is profound!”

Senior Army Acquisitions Alumnus Returns for Virtual VIP Lecture

By the Office of University Communications

U.S. Army Lt. Gen. L. Neil Thurgood, Director for Hypersonics, Directed Energy, Space and Rapid Acquisition in the Office of the Asst. Secretary of the Army (Acquisition, Logistics and Technology) presented a special, virtual VIP Guest Lecture to acquisitions students at the Naval Postgraduate School (NPS), Oct. 22.

Thurgood is a Systems Acquisition Management graduate of the university returning, virtually, to share his perspectives on future directions and priorities of the acquisition force, in addition to broader lessons on preparation, leadership and opportunity. He wrapped up the hourlong engagement fielding several questions from participating students.

“If you hold yourself accountable to excellence, then excellence will become your habit,” he told the near 100 students in attendance. “You’re going to want to learn everything you can so that when you’re a battalion commander, you’re ready and prepared to execute.”

Thurgood spoke about his experiences at NPS, encouraging the students to take advantage of the opportunity they have to learn.

“From my personal experience, it’s easy to see officers who have graduated from NPS,” he said. “They come out of the gates running

hard and fast, and have a good knowledge base. Use that to your advantage!”

In his position, Thurgood is responsible for the rapid fielding of select capabilities to deter and defeat rapidly modernizing adversaries, including overseeing development of an Army Long Range Hypersonic Weapon. He also leads the Army Rapid Capabilities and Critical Technologies Office (RCCTO) mission to rapidly and efficiently performing research, develop, prototype, test, evaluate, procure and field critical enabling technologies and capabilities that address near and mid-term threats consistent with the Army’s modernization priorities.



U.S. Army Lt. Gen. L. Neil Thurgood, pictured above right, fields a question from Army Capt. Royah Rogometrick, below right, a student in the Systems Engineering Management program, during a virtual VIP guest lecture, Oct. 22. NPS Military Associate Dean Army Col. Michael Kolb moderated the student Q&A (Courtesy Screen Capture)

NWC-at-NPS Awards Academic Honors for Summer AY’2020 Quarter Class

By the NWC Monterey Program

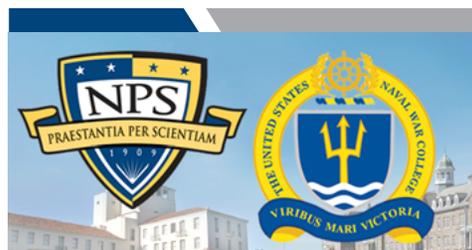
The Naval War College (NWC) Monterey program for Joint Professional Military Education (JPME) recognized 19 graduates from its latest class for earning academic honors for the 2020 Summer Quarter.

Graduates earning “with Highest Distinction” honors by completing the JPME program in the top five percent of their class are Army Maj. Diego A. Rincon and Christopher T. Yanko, Navy Lt. Cmdr. Robert J. Thompson,

Navy Lt. Ian M. Kelly and Marine Corps Capt. Alex J. Pfannenstiel.

Graduates earning “with Distinction” honors by completing the JPME program in the top 15 percent of their class are Army Maj. Michael R. Griffin, Christopher B. Smith, and Gene F. Uhler; Army Cpts. Nicholas J. Grazer, Joshua K. McMillion, and Chummie S. Recel; Navy Lt. Cmdr. Christopher G. Saxton; Navy Lts. Patrick M. Carter, Matthew L. Jackson, John W. Kim, David A. Kramer, and Olivia L. Wittman; Marine Corps Maj. Larry W. Wigington; and, Marine Corps Capt. Brandon E. Hee.

Through the NPS-NWC partnership, a total of 5,812 officers have earned their Joint Professional Military Education Phase I certification since the program’s inception in September 1999.



CAMPUS news & notes

The Inclusion & Diversity Council is seeking three new members, one from each of the following categories:

- Faculty member (professors, research professors, lecturers, all of any rank)
- Faculty associate (of any rank)
- Staff (military or civilian of any rank)

NPS greatly values the many benefits and positive outcomes provided by diversity in the workforce and the inclusion of a wide variety of perspectives and experiences that shape the workplace. As described in the [charter](#), the Inclusion & Diversity Council advises and assists the President by evaluating inclusion and diversity concerns across NPS, providing recommendations for action, and serving as a communication link between NPS senior leadership, management, and employees on matters related to inclusion and diversity.

To date, the Council has worked on several projects including gender/pay equities, gender representation on committees, and racial diversity of the faculty. Each year, the Council selects a set of issues to study and develops proposed courses of action to improve inclusion and diversity at NPS.

If you are interested in serving on this important council, please submit your nomination with a short description (a few sentences) of why you wish to serve on the council via e-mail either to [Michael Freeman](#), Associate Provost for Faculty Affairs or [Capt. Phil Old](#), Chief of Staff. The new members will join the existing members on the committee from the same constituencies for a term of two years.

Please submit nominations by COB on November 15. Selectees will be notified shortly thereafter.

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

Marine Corps' Landmark Ph.D. Program Celebrates First Technical Graduate

By MC2 Taylor Vencill

When the Marine Corps developed its new Doctor of Philosophy Program (PHDP), the service recognized the need for a cohort of strategic thinkers and technical leaders capable of the applied research and innovative thinking necessary to develop warfighter advantage in the modern, cognitive age. The Technical version of the program, PHDP-T, just celebrated its first graduate, with Maj. Ezra Akin completing his doctorate in operations research from the Naval Postgraduate School (NPS), Sept. 25.

Combining his operational background with a PhD in Operations Research, Akin now possesses both the operational and technical mastery necessary to apply innovative thinking to the most technically-complex challenges.

“The Marine Corps recently determined that we have a legitimate requirement for uniformed PhDs,” said Marine Corps Col. Randolph Pugh, NPS Senior Marine Corps Representative. “Identifying technological breakthroughs, determining how they should be integrated into our warfighting concepts, and then guiding the Marine Corps’ research and development efforts will require officers with highly developed expertise as well as connections to a large network of experts that this PhD program helps Marines like Akin develop.

“In the past, the Marine Corps generally integrated new technologies as they reached maturity,” continued Pugh. “Now we can pursue, or even guide the development of war-winning technologies years or decades ahead of time which we think will help give us decisive combat advantage.”

NPS, and even Akin himself, has been engaged with the Marine Corps in the evolution of the technical version of the PHDP program, recognizing the critical importance of both strategic thinking, and technical mastery, to meet the higher education needs for its future leaders.

“There’s growing recognition within the Marine Corps that advanced education is important and my graduation is proof of that,” said Akin. “The Marine Corps values education and understands that advanced technical degrees are going to be key in our future fights.”

Akin’s doctoral dissertation, which further advanced the research he began while earning his master’s degree from NPS, involved the introduction of estimators in random sample simulations in military contexts, demonstrating a reduction in variance without sacrificing speed. His results are fundamental contributions to the Marine Corps’ ability to improve the speed of analysis in edge computing.

For Akin, it was just the beginning of his contributions to the service. “Some of the things the Marine Corps will now expect from me is to inform decision makers with regards to what the future fight will look like, and what are some of the potential solutions or better ways of thinking about some of the complex problems we’re facing,” said Akin.

“NPS is the obvious choice to educate our technologists,” stressed Pugh. “The faculty has extensive expertise and robust relationships with other research-universities and industrial partners. They also have years of involvement with naval capability development which means that they understand what our PhDs will need to know and know how to do, as well as the challenges of forecasting emerging technologies and tracking them into capabilities.”

Being the first Marine to graduate with his doctorate from the Marine Corps PHDP-T, Akin has set the standard for future Marines that will follow in his footsteps.

“Ezra is a pathfinder and I think that the Marines and the future PhD candidates owe him a large debt of gratitude for helping to establish the program and then clearing a trail that they can now run down,” stated Pugh. “He has done something that no other Marine has ever done.”

Several Marines are already enrolled in doctoral programs at the university, following in the footsteps that Akin has trailblazed. Doctoral programs currently open to PHDP’s technical track include operations research; computer science; modeling, virtual environments and simulation (MOVES); and information sciences.

“It’s a great opportunity to get selected for the program,” said Akin. “It’s definitely a mark of your leadership’s respect for you and the investment you can provide the Marine Corps in the future.”



Maj. Ezra Akin is the first Marine to graduate from the Marine Corps' Doctor of Philosophy Program - Technical (PHDP-T), initiated to develop a cadre of strategic thinking, technically-astute uniformed leaders capable of guiding the applied research and innovative thought necessary to create warfighter advantage in the modern, cognitive age. (U.S. Navy Photo by Javier Chagoya)

Any Day at NPS



A two-hour long exposure captures a starfield pattern across the Monterey Peninsula from high atop NPS' Spanagel Hall. The radome, affectionately called the "golf ball," sits in the foreground and shelters a tracking radar from high winds, sun, rain, and corrosive salty air. However, the radome is transparent to the radar's operating frequencies, which work in the Universal S-band, 2 GHz range. Ground station operators use software-defined radios for satellite communications. Information provided by Research Faculty Associate Giovonni Minelli, a member of the Space Systems Academic Group. (U.S. Navy photo by Javier Chagoya)



A lone student looks at his cell phone in Root Hall's all but empty corridor, Oct. 29. While many students have eased into attending their classes via distance learning, others are attending in limited numbers in the sparse and socially distanced labs. (U.S. Navy photo by Javier Chagoya.)



YN1 Yao Kue, left, receives a Navy and Marine Corps Achievement Medal from NPS Chief of Staff Capt. Philip Old during an Awards and Quarters ceremony, Oct. 23. (U.S. Navy photo by MC2 Tom Tonthat)



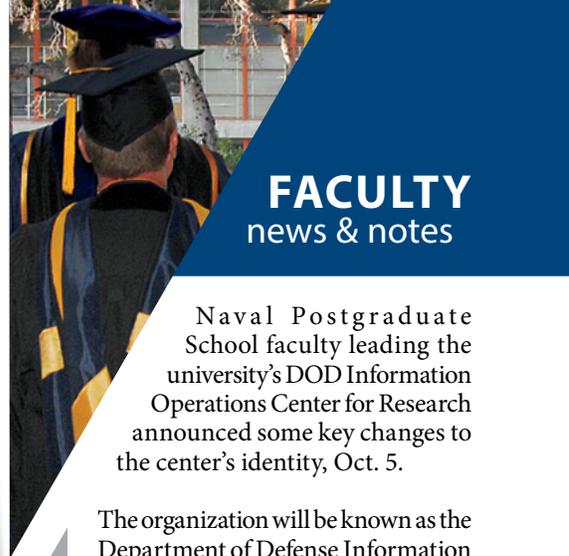
Recently-confirmed Joint Intelligence Center (JAIC) Director Marine Corps Lt. Gen. Michael Groen, top row center, makes a surprise appearance to answer a question from Marine Corps Master Sgt. Travis Hollingshead, bottom left, during NPS' latest virtual Secretary of the Navy Guest Lecture (SGL) covering AI for National Security, Oct. 13. (Screen Capture by MC2 Tom Tonthat)



Defense Resources Management Institute Lecturer Jerome Sebastyn gives direction to students during an International Defense Management Course in Reed Hall, Oct. 29. (U.S. Navy photo by MC3 James Norket)



YN2 Jeremiah Alisea, left, receives a Flag Letter of Commendation from NPS Chief of Staff Capt. Philip Old during an Awards and Quarters ceremony, Oct. 23. (U.S. Navy photo by MC2 Tom Tonthat)



Naval Postgraduate School faculty leading the university's DOD Information Operations Center for Research announced some key changes to the center's identity, Oct. 5.

The organization will be known as the Department of Defense Information Strategy Research Center (DoD ISRC). Director of the new center, Dr. Ryan Maness of the NPS Department of Defense Analysis, says the change aligns the center and its research to the evolving threat.

"The advent of the Internet and rise of social media in the 21st century have allowed U.S. competitors to use the power of information to sow chaos, divide populations, and steal state secrets without even leaving their sovereign territory or firing a shot. Disinformation rules on the Internet, and as technology rapidly evolves, this threat from the cognitive realm will only continue to proliferate," explained Maness.

The center's mission is to facilitate research and exploration of cyber and information strategies and concepts, conduct field experimentation and analysis, and support graduate-level education on information strategy and political warfare.

"The DoD ISRC will continue to support research on cyber and information strategy and policy of U.S. adversarial nations, Russia, China, Iran and North Korea, as well as various non-state groups to better understand their thinking, motives, and impact on target audiences," added Maness.

The center launched a [new website](#), as well as a new [Linked In page](#), designed to better connect and engage with the professional cyber and information strategist communities.

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

Ethics Guidance on Political Activity

From Capt. Philip E. Old, Chief of Staff

NPS Team,

As we move towards the 2020 elections, all DoD personnel – military and civilian – must be aware of the limitations that affect their participation in political activity. While all personnel are encouraged to carry out the obligations of citizenship, they must be mindful of the longstanding tradition that the DoD remain apolitical. Specific restrictions on political activity are codified in federal law in the Hatch Act (Title 5, U.S. Code, Sections 7321-26). As an unfortunate reminder that there can be severe consequences for not knowing or ignoring the rules, just last month a DON civilian employee was fined and debarred from federal employment for 3 years for Hatch Act violations (<https://osc.gov/News/Pages/21-01-Navy-Employee-Debarred-Hatch-Act.aspx>).

Notably, the rules are dissimilar for DoD civilian employees and uniformed service members. It is important for all of us to understand these rules to avoid any possible violation.

***For DoD Civilians (Faculty & Staff)** participation in political activity is regulated by the Hatch Act, with different rules for employees who are classified as “further restricted” employees (such as career SES, NSA, or DIA) or “less restricted” employees (DoD civilian employees). Political activity is defined as any activity directed toward the success or failure of a political party, candidate for partisan political office, or a partisan political group. Although less restricted employees may volunteer with a political campaign or organization in their personal capacity, they are prohibited from soliciting or receiving political contributions. Civilian employees are also prohibited from engaging in political activity while on-duty in a Federal building (which includes sending political emails, posting political messages, or tweeting in a Federal building even if off-duty and on a personal device). **Teleworking away from the traditional office setting constitutes “while on-duty.”** DoD civilian employees are also prohibited from using government equipment to engage in political activities.

***Uniformed Active Duty Members** are more restricted than their civilian employee colleagues. The primary guidance concerning political activities for military members is [DoD Directive 1344.10](#), which requires that uniformed members refrain from participation in “partisan political activity.” Partisan political activity is defined as any activity supporting or relating to candidates representing, or issues specifically identified with, national or State political parties and associated or ancillary organizations or clubs. This is a broader restriction than the Hatch Act and includes not just candidates or political parties, but political issues and organizations as well. While **uniformed members are encouraged to exercise their civic duty to vote**, they must take care to ensure their activities don’t imply DoD sponsorship, endorsement or approval of a political candidate, campaign or cause. Although military can “follow,” “friend” or “like” a political party or candidate running for partisan office, **they may not post links to, share or re-tweet comments or tweets from the Facebook page or twitter account of a political party or candidate running for partisan office--all of that is considered to be “participating in a partisan political activity.** Members on active duty also may not campaign for a partisan candidate, engage in fundraising activities, serve as an officer of a partisan club or speak before a partisan gathering. However, they may make monetary contributions to political campaigns, express personal opinions on political candidates and issues, and attend political events as a

spectator **not in uniform**. Lastly, military members are prohibited by the UCMJ from showing contempt for public officials, releasing sensitive information, or posting material that is prejudicial to good order and discipline.”

In the words of Secretary of Defense, Mark Esper, “Maintaining the hard-earned trust and confidence of the American people requires us to avoid any action that could imply endorsement of a political party, political candidate or campaign by any element of the Department.” Especially during times like these the decisions we make must reaffirm our commitment to ethical conduct.

Detailed guidance can be found in the following documents:

- 2020 DoD Public Affairs Guidance for Political Campaigns and Elections,
- Guidance on Political Activity and DoD Support 2020,
- Political Activities and the Hatch Act Guidance When Teleworking,
- Guidance on Communication with Presidential Campaigns,
- Preparation for Orderly Administration Transition.

These documents are available on the [Ethics Corner](#) (<https://nps.edu/group/mynps/ethics>)

Both NPS Office of Counsel (ogc@nps.edu) and Staff Judge Advocate (stephen.murray@nps.edu) are available if you have any questions.

CAPT Philip E. Old
Chief of Staff, Naval Postgraduate School



On campus this month

November 10

Virtual Town Hall
3:00 p.m. | Online

November 11

Veteran's Day

November 17

V-SGL with Ambassador Harry Harris
3:00 p.m. | Online

November 26

Thanksgiving Day



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