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NPS in the News Weekly Media Report - Apr. 12-18, 2022

Naval Postgraduate School (U.S.)

Weekly Media Report – April 12-18, 2022

EDUCATION:

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(The Register 12 Apr 22) … Brandon Vigliaro

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RESEARCH:

Concealed Weapons Detection Systems: How Today's Technology Can Improve Campus Security

(Campus Safety Magazine 15 Apr 22)

AI and other advanced features in today's weapons screening systems address the many issues that plague traditional metal detectors…In 2021, K-12 schools and school districts recorded 249 times a gun went off on campus, the most since 1970, according to the **Naval Postgraduate School's** Center for Homeland Defense and Security. School board meetings have also experienced a steep increase in threats and violence.

STUDENTS:

NPS Students Explore Potential Cost Efficiency of Battery-Powered Warships

(NPS.edu 14 Apr 22) … Rebecca Hoag

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COLLABORATION:

NPS Researcher Mentors the Next Generation of Robotics Engineers

(Navy.mil 12 Apr 22) … Mass Communication Specialist 2nd Class James Norket

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Navy's Specialized And Proven Aircraft Program Office Welcomes New Program Manager

(The Bay Net 12 Apr 22)

The Specialized and Proven Aircraft program office (PMA-226) welcomed a new program manager during a ceremony held 7 April in Cherry Point, N.C… PMA-226 is responsible for life cycle cradle to grave management of several legacy and Out of Inventory aircraft and engines, assigned by NAVAIR and contracted air services. Assigned platforms and services include: Adversary Aircraft (F-5, F-16); Contracted Aircraft Services; US Naval Test Pilot School / **Naval Postgraduate School** T-38, H-72, X-26, U-6, NU-1B, O-2, OH-58C; and Out of Active Navy Inventory aircraft T-2, H-2, H-3, A-4, in support of the Naval Aviation Enterprise and our international partners.

FACULTY:

Free advice for Putin: 'Make peace, fool'

(New York Times 13 Apr 22) … Thomas L. Friedman
(Zyri 13 Apr 22) … Thomas L. Friedman
(Deccan Herald 13 Apr 22) … Thomas L. Friedman

As Vladimir Putin embarks on his plan Ba massive military operation to try to take at least a small part of eastern Ukraine to justify their ill-conceived war, I thought…I settled on one of America's leading grand strategy masters, John Arquilla, who recently retired as distinguished professor of defense analysis at the US **Naval Postgraduate School**.

Ukraine and the 'New Rules of War'

(Outside the Beltway 14 Apr 22) … James Joyner

Today's column by Tom Friedman, "Free Advice for Putin: 'Make Peace, You Fool'," is insightful because, instead of relying on a conversation with a taxi driver, it instead relies on one with "one of America's premier teachers of grand strategy, John Arquilla, who recently retired as a distinguished professor of defense analysis at the U.S. **Naval Postgraduate School**."

A Ukrainian State of Mind

(War on the Rocks 13 Apr 22) … Siamak Tundra Naficy

In On the Origin of the Species, Charles Darwin wrestled with the question of why people would ever be willing to risk themselves for strangers. Only in 1871, in The Descent of Man, did Darwin find an answer: Societies that include brave people in their population would have an advantage when faced with hopeless causes — situations in which the brave act without regard for personal survival in the event of success. In other words, particularly in existential conflicts when losses against a competing group could mean genetic or cultural extinction, moral commitments to group loyalty, sacrifice, and heroism are most consequential… Siamak Tundra Naficy is a senior lecturer at the **Naval Postgraduate School's** department of Defense Analysis. An anthropologist with an interdisciplinary approach to social, biological, psychological, and cultural issues, his interests range from the anthropological approach to conflict theory to sacred values, cognitive science, and animal behavior. The views expressed are the author's and do not reflect those of the Department of Defense, the U.S. Navy, the U.S. Army, or the **Naval Postgraduate School**.

Sitting Out of the Artificial Intelligence Arms Race Is Not an Option

(National Interest 15 Apr 22) … John Arquilla

Viewing the dangerous advances in military technology, from Nazi V-weapons to hydrogen bombs, investigative journalist I.F. Stone once described arms races as the inevitable product of there being "no limit to the ingenuity of science and no limit to the deviltry of human beings." This dark truth about the era of human-controlled "kinetic" weapons of mass destruction that so concerned Stone remains true today of the emerging range of increasingly automated systems that may now be fusing scientific ingenuity with a silicon-based deviltry of all its own… John Arquilla is Distinguished Professor Emeritus at the United States **Naval Postgraduate School** and author, most recently, of Bitskrieg: The New Challenge of Cyberwarfare. The views expressed are his alone.

ALUMNI:

New President and CEO of Care and Share Food Bank for Southern Colorado Announced

(KKTV 14 Apr 22) … Tony Keith

A man with more than two decades of experience in the military will be leading the Care and Share Food Bank for Southern Colorado… Springer received a Bachelor of Science in Business Marketing from Oklahoma State University. He received his Master of Arts in Security Studies from the **Naval Postgraduate School**; Master of Military Arts and Science from Military History at Fort Leavenworth; and Master of Arts in Strategic Studies from War College at Fort Leavenworth.

Q&A: Vice Adm. Roy Kitchener, Commander, Naval Surface Forces, Commander, Naval Surface Force, U.S. Pacific Fleet

(Sea Power Magazine 15 Apr 22) … Richard R. Burgess

Vice Adm. Roy Kitchener assumed command of Naval Surface Forces and Naval Surface Force, U.S. Pacific Fleet in August 2020, and as a type commander he has guided the forces as he continues to man, train and equip the forces for duty in the fleet and service to the U.S. combatant commands. A native of Trumbull, Connecticut, and a 1984 graduate of Unity College with a Bachelor of Arts in political science, he attended the Navy Officer Candidate School in Newport, Rhode Island, and received his commission in 1985. He also attended the **Naval Postgraduate School** where he specialized in Western Hemisphere studies and earned a Master of Arts in national security affairs.

Former Kid From Baldwin Set To Command Flight To Space Station

(News Day 16 Apr 22) … Craig Schneider

Jasmin Moghbeli, who dreamed of becoming an astronaut as a kid in Baldwin, will take her first trip into space, serving as spacecraft commander for a flight to the International Space Station, NASA has announced…Jasmin Moghbeli went on to earn a bachelor's degree in aerospace engineering from the Massachusetts Institute of Technology and a master's degree in aerospace engineering from the **Naval Postgraduate School** in California. She became an AH-1W Super Cobra attack helicopter pilot and Marine Corps test pilot, logging over 150 combat missions.

The Los Angeles Times Festival Of Books of 2022 presents, A Sailor's Advice on Life

(EIN News 15 Apr 22)

Author Cleveland O. Eason will be one of the featured authors in the upcoming Los Angeles Festival of Books 2022 with his published book titled A Sailor's Advice on Life. An autobiography book about the sailor's career of the author. In life there will always be beginnings, small steps of processing life and any person needs guidance to figure out themselves. A book that will encourage you to navigate life with your eyes wide open and realize your fullest potential. Further, it encourages constructive self-reflection and offers keen insights into why we do what we do and some lessons learned for those who want to learn from others' experiences…Cleveland O. Eason has a degree from Troy University, a master's degree in Systems Analysis from the **Naval Postgraduate School**, and a master of Business Administration. He is the son of a US Army First Sergeant, who completed two Vietnam combat tours and was a US Army boot camp drill instructor before retiring with twenty years of honorable service.

UPCOMING NEWS & EVENTS:

Apr 19-21: Naval Research Working Group
Apr 22: DA Research Rodeo
Apr 26-29: Center for Executive Education SCW Workshop
May 11-12: Acquisition Research Symposium
May 13: Discovery Day

EDUCATION:

Climate Model Code Is So Outdated, MIT Starts From Scratch

(The Register 12 Apr 22) … Brandon Vigliaro

When faced with climate models coded in Fortran in the 1960s and 70s, MIT decided there wasn't any more cobbling together left for the ancient code, so they decided to toss it out and start fresh.

It's an ambitious project for MIT professors Raffaele Ferrari and Noelle Eckley Selin, who submitted their Bringing Computation to the Climate Challenge proposal as part of MIT's Climate Grand Challenges (CGC). Out of 100 submissions, MIT picked five projects to fund and support, one of which is Ferrari and Selin's.

"The goal of this grand challenge is to provide accurate and actionable scientific information to decision-makers to inform the most effective mitigation and adaptation strategies," the proposal said.

Students can't read model code

Ferrari was part of a group called the Climate Modelling Alliance (CLiMA), which formed at Caltech with the **Naval Postgraduate School** and NASA's JPL in 2018 to modernize climate models. Much of the early work that formed the basis of the CGC project began at that time. You can find CLiMA's code on GitHub here.

CLiMA made the determination that old climate models, many of which were built 50 years ago and coded in Fortran, had to go if there was going to be any progress toward better climate models. Now that he's working at MIT on the CGC project, he's realized that "traditional climate models are in a language [MIT] students can't even read."

The language that CLiMA chose, and the one being used for the MIT project, is statistical modeling language Julia, which another CLiMA researcher described as a serious challenge "because Julia hadn't been used on such a big science project before."

Ferrari said that the Julia gamble played off, leading to the current situation in which the team has built what it describes as a digital twin of the Earth that can simulate global climate conditions. Current models have low resolution: The smallest scale they can operate on is the 100-200 kilometer scale. Small-scale weather processes, like cloud cover, rainfall and sea ice, simply can't be accurately predicted.

CLiMA's model is able to include small-scale climate elements, which CLiMA scientists say are fundamental to understanding larger processes. Interactions between small and large-scale climates happens constantly, Ferrari said, and their exclusion means far less precision.

Precision on a global scale isn't the end goal, though: "We want to take this large-scale model and create what we call an 'emulator' that is only predicting a set of variables of interest, but it's been trained on the large-scale model," Ferrari said.

Ferrari's emulators would be limited to a small portion of the planet, but because the so-called "digital cousins" are trained on the global model they can understand the ways that large and small climate elements interact.

Climate modeling in your pocket?

The current way that climate models are run is inefficient, Selin points out, because "if you wanted to use output from a global climate model, you usually would have to use output that's designed for general use."

Part of Selin and Ferrari's project would be to democratize access to climate models through the use of emulators and by taking end-user needs into account from the very beginning. Ultimately, the team hopes digital cousins could be run on devices as small as a smartphone, though they admit that's beyond the scope of the current project.

Digital cousins of small Earth regions, the team said, would save local institutions time and money establishing their own climate models, and their accuracy would enable forecasters to model their region in real-time with a wider range of scenarios.

Ultimately, Ferrari wants the project to create climate models that will be able to predict future events for which data doesn't exist. That opens up another challenge and researchers may need to spend some time on: "A new way of doing machine learning that learns from the data continually coming in and also takes into account the laws of physics and thermodynamics," MIT said.

Climate model code is so old students can't read it • The Register

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RESEARCH:

Concealed Weapons Detection Systems: How Today's Technology Can Improve Campus Security

(Campus Safety Magazine 15 Apr 22)

AI and other advanced features in today's weapons screening systems address the many issues that plague traditional metal detectors.

The call for more effective weapons detection systems on campus has taken on even greater urgency over the past few years due to the recent increase in violence, crime, and other security incidents being reported in schools and healthcare facilities, as well as in their surrounding communities.

In 2021, K-12 schools and school districts recorded 249 times a gun went off on campus, the most since 1970, according to the **Naval Postgraduate School's** Center for Homeland Defense and Security. School board meetings have also experienced a steep increase in threats and violence.

In healthcare, the rate of assaults reached an all-time high in 2020, increasing 23% compared to the previous year, according to the International Association for Healthcare Security and Safety. There has also been a significant rise in reported cases of mental health issues among K-12 and college students, as well as hate crimes and domestic extremist activities in the country overall.

Today's weapons detection technology can help minimize the risks that all of these concerning trends pose. Depending on the technology selected, these advanced systems can more effectively reduce the number of weapons – including firearms, large knives, and improvised explosive devices (IEDs) – being carried on campus or at campus-affiliated events, such as football games, basketball games, concerts, controversial speaker presentations, and more.

Metal Detectors Have Challenges When Screening for Weapons

Traditional metal detectors that are used for detecting concealed weapons have experienced significant problems over the past 50 years. The primary challenge is their slow throughput of the people they are screening. Traditional metal detection programs can make students late to class and delay patients from receiving their medical treatments. Throughput can also be challenging at stadiums holding athletic events or concerts, negatively impacting attendee experience.

There are several reasons for slow throughput. Traditional metal detectors often can't differentiate between benign metal objects (like cell phones or keys) and weapons (like guns, knives, and bombs) that can cause mass casualties. Because of this, these detectors alarm on practically everyone and everything, which slows down the screening process. They also don't identify the specific location of a threat object, either on a person or in their bag. This leads to officer fatigue and forces campuses and venues to station a lot of security personnel at the front entrances, diverting them from other, more vulnerable locations.

Additionally, traditional metal detection systems aren't integrated with video surveillance systems and don't provide data, such as number of entrants, entrance fluctuations based on day, time and events, and analytics involving alarm rates. Without this centralized intelligence, security teams can't correlate the data and use predictive analytics to manage risks and react in real time to threats when they happen. If this information were available, it could also be used by security teams to improve staff efficiencies and screening effectiveness.

Another issue with traditional metal detectors, especially walk-through detectors, is aesthetics and the potential to send the wrong message to the community being protected. Their unwelcoming appearance could negatively affect some students' abilities to learn and some patients' abilities to heal.

Advanced Concealed Weapons Detection Systems Can Help

Fortunately, today's advanced concealed weapons detection technology addresses these issues as well as numerous other problems associated with traditional metal detectors. These advances make a campus or venue's weapons screening program much more effective and efficient.

One of the most impressive benefits of today's new technology is that it dramatically speeds up the screening process. Systems like Evolv's Express® enables students, patients, employees, and guests to enter a campus or venue at a regular walking pace. It does this by using sensors and artificial intelligence (AI) with flexible sensitivity settings to distinguish everyday metal items from weapons that can be used to commit mass casualty attacks. Furthermore, Evolv's system can identify threat objects without requiring students, patients, visitors, and employees to stop, empty their pockets, and remove and open their bags.

As a result, crowded entrances and long lines outside a campus or event are eliminated, which also eliminates them as soft targets for individuals who might want to inflict harm.

Evolv's Express solution also integrates with other security systems, such as video surveillance, and incorporates AI to comprehensively review, analyze, and gather insights captured during the concealed weapons detection process. The information that Express can provide includes visitor arrival curves and counts, including how many people entered campus and at what time. Other data available for review include system performance, alarm statistics, and detection settings.

All of this information can help campus security and public safety executives make evidence-based decisions that streamline operations, improve student, patient, employee, and visitor flow, and optimize ingress safety and experience. It can also help campuses comply with incident reporting laws and regulations, such as the Clery Act and the Joint Commission's new workplace violence reporting requirements.

Touchless Features Protect Security Staff, Reduce Officer Fatigue

Today's advanced weapons detection systems enable officers to reduce their physical interactions with the individuals they are screening because the systems reduce the number of people and bags that must be physically inspected. If the technology integrates with video surveillance, the weapons detection process can be monitored remotely on a tablet across campus or in a security operations center in another state or country.

This hands-off approach reduces security staff exposure to communicable diseases… a significant advantage that was appreciated by officers, students, patients, parents, and visitors during the pandemic. Less physical interaction and remote monitoring also frees up security personnel to address more pressing concerns and reduces officer fatigue.

When selecting a new weapons detection system, other features that should be considered include if the technology is user friendly. For example, Evolv's Express system is easy to learn and use, which cuts down on the time an organization needs to spend on training.

The technology is also lightweight, portable, and can be used indoors and outdoors. This enables the school, university, or hospital to strategically deploy the system, such as only when the risk of a security incident is high.

Campuses, Hospitals Shouldn't Look Like High-Security Prisons

Perhaps the biggest advantage to today's concealed weapons detection systems is their non-threatening appearance. They're not intimidating like traditional walk-through metal detectors. In fact, depending on the system being used, students, patients, visitors, and employees might not even realize they are being screened.

This low-key but effective approach to security helps schools, colleges, healthcare facilities, and other venues find the right balance between making the student, patient, and guest experience a welcoming one and providing strong campus security.

That being said, the appropriate level of security and its visibility vary greatly, depending on the campus or venue type. But even at locations where security needs to be more obvious, today's advanced weapons detection systems, like Evolv's Express, promise to provide even better and more resource-friendly protection.

Concealed Weapons Detection Systems: How Today's Technology Can Improve Campus Security - Campus Safety (campussafetymagazine.com)

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STUDENTS:

NPS Students Explore Potential Cost Efficiency of Battery-Powered Warships

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Recent NPS graduates Lt. Cmdr. Evan Bloxham and Lts. Christopher Masters and Ashraful Haque took advantage of Naval Research Program grant to support the DOD's effort to achieve net-zero emissions by 2050, exploring the fiscal viability of lithium-ion battery powered warships.

When Naval Postgraduate School (NPS) Financial Management students Lt. Cmdr. Evan Bloxham and Lts. Christopher Masters and Ashraful Haque, started their joint research project on the financial feasibility of powering warships using lithium-ion (Li-ion) batteries, they were admittedly skeptical it would actually yield any results favoring this form of electrification.

"We found a lot of research and were very interested in the progress that had been made by lithium-ion batteries, as well as how much investment in both the public and private sector was going into it," Masters explains. "We were both kind of skeptical about the application of and the actual savings that lithium-ion batteries can provide. And so we just wanted to look into it and see if, on a long-time scale or large project, is there potential for cost savings?"

The student team's capstone project was funded in part by a Naval Research Program (NRP) grant secured in Oct. 2021 to explore net-zero pathways for the operational Navy. At the end of the project, they presented their work in a virtual brief, which was attended by many experts at NPS as well as outside interests, including the senior climate advisor for the Navy. There will be three additional projects briefed through the grant over the 2022 Academic Year.

"There's been a lot of interest in the Pathways to Net Zero Emissions because of the push within the DOD and other federal agencies to reach net-zero by 2050," says Kristen Fletcher, a Faculty Associate for Research in the Energy Academic Group (EAG) at NPS. Fletcher was one of the students' advisors, along with Dr. Simona Tick, an NPS manpower and economics lecturer in the Department of Defense Management.

The students conducted a cost-benefit analysis on converting a gas-powered warship to be powered using a Li-ion battery system, eventually developing a working financial model that can be used to calculate the carbon emissions of the service fleet using gas turbine as well as the battery alternative over the span of 15 years.

The costs they look at included the energy needs of the warship to run for a year, the cost of the battery and the conversion process, the cost of fuel prior to conversion, the social cost of emissions, and the difference in maintenance costs between gas and Li-ion powered ships. Emissions are relatively straight forward for a gas-powered warship, but they also calculated the emissions associated with using U.S. domestic energy, which is not all from renewables.

They used the U.S. Energy Information Administration's conversion rates to determine the energy use in gas-powered ships versus Li-ion battery powered ones. The team also looked at three different oil price scenarios based on market volatility.

Under the methodology employed by the student team, the results demonstrated significant savings in manpower. Specifically, they found that Li-ion batteries required no mechanics and nearly half as many electricians. This alone could save the Navy over $435 million a year fully realized.

Recognizing the battery systems would require replacement after in the 8th year of operation, the team also factored in potential cost savings through the resale of recyclable materials. And they estimated the cost of switching out batteries to be about half the cost of the initial conversion from a gas-powered turbine to electric power.

According to the team's estimates, the Navy would spend between $138 million and $256 million to switch a gas-powered warship to run on a Li-ion battery. Juxtaposed with the potential estimated savings of anywhere between $38 million to $156 million, per year, by making the switch and the team says their results speak volumes.

"Even in the most limiting scenario, which is the low oil price scenario, still 62 precent of the time it came out that [the Li-ion switch] was preferred, which to us suggests it does present significant cost savings to the government, at least from a strictly financial standpoint," Masters said during the team's final briefing.

Most of the savings comes from the reduction of energy needs, the team reported, but they did also look at other gas-powered turbine options that might increase a warship's cost-savings or energy efficiency without the wholesale switch to electrification.

It's an area of potential further research, as is the maintainability, reliability and survivability of Li-ion batteries, the students said. There are also possible hybrid energy solutions, and the maritime applications of Li-ion batteries in coastal waters and within smaller crafts, as additional areas of research.

All three students have graduated, and are now in follow on assignments, or preparing for them. Masters is attending a submarine officer advanced course in preparation for going back out to sea, Haque is working on the budget for Marine Corps medical care, and Bloxham started at the Presidential Helo Program (PMA 274) as a deputy business financial manager.

The team says their capstone experience has definitely changed their perspective to the value in pursuing renewable energy solutions.

"I hope I have the opportunity to influence DOD decision-makers on making more investments in green energy," Haque says. "Every opportunity I get, I will try to advocate for that."

NPS Students Explore Potential Cost Efficiency of Battery-Powered Warships - Naval Postgraduate School

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COLLABORATION:

NPS Researcher Mentors the Next Generation of Robotics Engineers

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For six weeks, students and mentors from Santa Catalina School in Monterey meticulously crafted a robot to compete in the regional For Inspiration and Recognition of Science and Technology (FIRST) Robotics Competition, a held at Seaside High School, March 24-26.

Santa Catalina, an all-girls boarding and day school at the high school level, is a perfect example of why FIRST was created.

In 1989, entrepreneur Dean Kamen and physicist and MIT emeritus professor Woodie Flowers noted the lack of younger students – particularly female and minority students – who considered career fields in science and technology, and the FIRST program was developed to be part of the solution. Fast forward 30 years, and the latest FIRST Robotics Competition now includes 3,898 teams with more than 97,000 students and 29,000 mentors from 34 countries.

Santa Catalina initially reached out to the Naval Postgraduate School (NPS) in 2018 in search of mentors for the team they hads coined "Nuns and Bolts," and Brandon Naylor, a faculty associate for research in the NPS Energy Academic Group, answered the call.

At that time, the team was just getting started, with just two students and a lot of passion to field a robotics team at their school.

"The team was started by a pair of ambitious students, but the school didn't have any faculty with the right combination of availability and relevant experience to supervise and mentor the students," Naylor said. "I had done FIRST robotics in high school, minored in robotics as an undergrad, and had a supervisor who was OK with me adjusting my schedule to accommodate meeting with the team every day after work.

"As a mentor with the team, I teach the girls everything from how to use tools to design principals to computer aided design and coding," he continued.

Naylor has acted as a mentor for the team for almost four years now, committing time after his work day to support the students and assist the team, which is especially active during the competition season.

"Each year in January, FIRST releases a new game for the season, and my goal is to help the students bring their ideas to life in the form of a functioning robot that accomplishes the game objectives," Naylor described. "Ultimately, I want the students to build a robot they designed themselves and to teach them skills they otherwise would not have access to."

And according to Steve Nixon, a teacher at Santa Catalina who serves as the lead mentor for the team, Naylor's support and instruction has been a difference-maker, allowing the team to field a competitive robot in the latest competition, and bring in new students to the team.

"Brandon's brain has been invaluable to the team," said Nixon. "I don't know how we would've gotten as far as we have had it not been for him. He has been here since the team's very first year and has been a crucial part of the team's success."

More than just a helping hand, Naylor has offered his expertise in all aspects of the robots' build, and is able to challenge the students to create more complicated designs and helps them bring their ideas to reality.

"[Naylor] is the only dedicated building mentor that we have on the team," said Caitlin Sullivan, a senior at Santa Catalina and the robotics team's student leader. "He brings a lot of great ideas to the team and brings a great perspective that is typically different from ours."

Naylor said that he loves working with the students at Catalina. Not only does it provide him with an opportunity to give back to the community, he says, but it also helps integrate a more diverse population of young students building a passion for robotics, a field that Naylor himself is pretty passionate about.

As a graduate school, the role of NPS is to support the development of knowledge and one of the best things we can do, as NPS staff and students, is to help share that knowledge with the next generation, Naylor added.

FIRST Robotics consists of hundreds of regional-level competitions where schools from across the country will come together and test their robots in a multitude of challenges, including throwing balls into goals, placing inner tubes onto racks, and hanging onto bars. Winners of the regional competition are then invited to compete at the national level, scheduled for April 20-23 in Houston, Texas.

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Navy's Specialized And Proven Aircraft Program Office Welcomes New Program Manager
(The Bay Net 12 Apr 22)

The Specialized and Proven Aircraft program office (PMA-226) welcomed a new program manager during a ceremony held 7 April in Cherry Point, N.C.

Program Executive Officer for Aviation Common Systems and Commercial Services (PEO(CS)), Mr. Gary M. Kurtz, presided over the change of command ceremony during which Capt. Gregory Sutton assumed command of PMA-226 from Capt. Ramiro Flores.

Kurtz said he credits Flores' emphasis on team building skills and his unwavering fleet-focus as the keys to his program's success. "Flores served as the glue to bring his team together for mission success – bringing tactical training capability and contracted air services to the warfighter and our international partners."

As the Specialized and Proven Aircraft program manager, Flores led a workforce of more than 130 team members who powered through the challenges of COVID and transitioned into the hybrid work environment the command is in today. Under his leadership, those changes were transparent to the fleet. According to Kurtz, Flores' program performance was "Consistently outstanding, he made it look easy to manage a $611 million annual budget, lead a team of more than 130 personnel and oversee 10 different type/model/series (T/MS) aircraft in the Navy and Marine Corps inventory, five different T/M/S operated by six international customers, and $2 billion in contracts for contracted air services".

"I cannot take all the credit for our achievements," said Flores. "They're the result of the hard work my dedicated team puts in every day to deliver increased capability to the warfighter." He said, "It's been my honor to be part of this team, delivering cutting-edge tactical training, services, and support to the warfighter and our partners," said Flores. I know this office is in good hands and ready for the future.

Flores will retire from the Navy after 38 years of service to our nation.

Sutton joined the NAVAIR workforce in 2003 as an integrated project lead for E-2C airborne wide-band internet protocol based networking and rapid prototyping, responsible for integration of prototype efforts into fleet experiments to advance technology and requirements development.

In 2009, Sutton reported to Air Test and Evaluation Squadron ONE (VX-1) in support of operational test & evaluation of the E-2D. While at VX-1, he was assigned as the administrative department head, which included planning and management of personnel changes and increases to support not just the arrival of E-2D, but also P-8A, MQ-4, and MQ-8 in addition to existing platforms. During his time at VX-1, the Navy selected Sutton for aerospace engineering duty officer.

In 2010, Sutton served as an operations analyst supporting the warfare analysis & integration department, responsible for warfare studies via research, modeling, and simulation for program sponsors, and he was assigned as the deputy director for the Unmanned Carrier Launched Airborne Surveillance and Strike analysis of alternatives.

In 2012, he served as the miniature air launched decoy-Navy integrated product team lead (IPTL) for the Airborne Electronic Attack Systems and EA-6B program office (PMA-234), then subsequently selected as the Next Generation Jammer (NGJ) Low-Band Pod IPTL until the team was established, and was then later reassigned as the NGJ Mid-Band Pod test and evaluation lead.

In 2015, Sutton served as the assistant deputy program manager for the Unmanned Systems Common Control System to the Strike Planning and Execution Systems program office (PMA-281) and then later assigned as the deputy program manager for the Tomahawk Theater Mission Planning Center program.

In 2019, Sutton supported the E-2/C-2 Airborne Tactical Data System program office (PMA-231) as the E-2D Advanced Systems deputy program manager, responsible for transitioning advanced technology and modernizing the mission systems architecture.

Prior to assuming command of PMA-226, Sutton supported Naval Air Force Atlantic as the director, aviation material and engineering for Naval Air Forces responsible for directing and orchestrating technical, logistics planning, and inventory distribution for all aircraft, aircraft engines, avionics, and aircrew life support systems.

Sutton graduated from The Citadel, receiving a Bachelor of Science in Physics and was commissioned through the Naval Reserve Officer Training Corps in 1998. He later graduated from Johns Hopkins University, receiving his Master of Science in Systems Engineering.

"We have an important mission here at PMA-226 – we provide our warfighters with tactical training they need to win the high end fight, provide contracted air services in support of fleet missions, and support our international partners in a time we need to think globally," said Capt. Gregory Sutton. "I am excited to be joining this team in working hard to achieve our mission."

About PMA-226

PMA-226 is responsible for life cycle cradle to grave management of several legacy and Out of Inventory aircraft and engines, assigned by NAVAIR and contracted air services. Assigned platforms and services include: Adversary Aircraft (F-5, F-16); Contracted Aircraft Services; US Naval Test Pilot School / **Naval Postgraduate School** T-38, H-72, X-26, U-6, NU-1B, O-2, OH-58C; and Out of Active Navy Inventory aircraft T-2, H-2, H-3, A-4, in support of the Naval Aviation Enterprise and our international partners.

Concealed Weapons Detection Systems: How Today's Technology Can Improve Campus Security - Campus Safety (campussafetymagazine.com)

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FACULTY:

Free advice for Putin: 'Make peace, fool'

(New York Times 13 Apr 22) … Thomas L. Friedman
(Zyri 13 Apr 22) … Thomas L. Friedman
(Deccan Herald 13 Apr 22) … Thomas L. Friedman

As Vladimir Putin embarks on his plan Ba massive military operation to try to take at least a small part of eastern Ukraine to justify their ill-conceived war, I thought:

Who could give you the best advice right now?

I settled on one of America's leading grand strategy masters, John Arquilla, who recently retired as distinguished professor of defense analysis at the US **Naval Postgraduate School**.

When I called Arquilla and asked him what he would say to Putin today, he did not hesitate:

"I would tell him, 'Make it up, fool.'"

This is also known as the first hole rule:

when you're in one, stop digging.

Arquilla did not get his phrasing out of nowhere.

After the landing of D-Day in Normandy on June 6, 1944, it quickly became clear that the Germans could not hold the Allied beachhead.

So after a German counterattack near Caen failed on July 1, the main German commander on that front, Field Marshal Gerd von Rundstedt, telephoned Berlin to report the debacle to Army Chief of Staff Wilhelm Keitel, who then asked him: what do we do?" – to which von Rundstedt replied:

"Make peace, fools! What else can you do?"

The next day, von Rundstedt was ousted, not unlike what Putin just did, bringing in a new high-ranking general, one who helped crush the opposition movement in Syria with a rampant brutalityto lead phase two of their war.

This did not work out for the Germans, and without making any predictions, Arquilla explained why he believed that Putin's army might also encounter strong resistance from the undermanned and underarmed Ukrainians in this new phase.

It begins, he argued, with everything that is new in this war between Ukraine and Russia:

"In many respects, this war is the Spanish Civil War of our era. In that war, the Germans tested many weapons, such as Stuka dive bombers and Panzer tanks, and the Allies also learned things before World War II. The same is being done in Ukraine with regard to next generation warfare".

Arquilla recently published a book on next-generation warfare, “Bitskrieg: The New Challenge of Cyberwarfare“.

“In that book, I described the three new rules of war, all of which I see Ukrainians employing,” he explained.

“The first is that many and small They beat big and heavy. The Ukrainians are operating in squad-level units armed with smart weapons, and these are capable of disrupting much larger formations and attacking slow and loud, helicopters, etc.”

“So, although the Russians outnumber them, the Ukrainians have many, many more action unitsgenerally between eight and 10 soldiers in size.”

Arquilla said that these small Ukrainian units armed with intelligent precision-guided weapons such as killer drones, anti-aircraft weapons and light anti-tank weapons “can take down the much larger and heavily armed tank units of the Russians.”

The second rule of modern warfare in Ukraine, he said, “is that find it’s always better to flank. If you can locate the enemy first, you can take him out. And especially if the enemy is made up of a few large units, like a 65 kilometer long convoy of tanks and armored personnel carriers, you are going to crush them with your small squads, without having to outflank them. with a force of the same size.

I asked Arquilla why the Ukrainians are so good at finding. (I’m guessing they’re getting reconnaissance help from NATO.)

“The Ukrainians are making very good use of small drones, particularly Turkish drones, which are tremendous,” Arquilla said. But it is their human sensors, the informal Ukrainian observer corps, that are devastating the Russians. Grandmas with iPhones they can trump the satellites.

“The Ukrainian observer corps consists of babushkas and children and anyone else who has a smartphone,” he said.

“And they have been calling in the places where the Russian units are and where they are moving to. And so the Ukrainian forces have this great advantage in finding the Russians in this great country, and that is to give their small units with smart weapons, actionable intelligence in real time.

The third rule of the war of the new era that is taking place in Ukraine, said Arquilla, is that “the swarm is always better than the surge”.

He explained: “War is no longer just a numbers game. You don’t need big numbers to surround the opponent with lots of smart little weapons. I’m sure you’ve seen some of the videos of these Russian tanks and columns, where suddenly one tank is taken out from the front and then another from the rear, so the Russians can’t maneuver, and then they are taken out. ”

Since this is the next phase of the war and the Russians are not stupid, surely they will adapt in phase two, right?

The Russians will continue to use some massive bombing, Arquilla argued, “and they will be even less constrained in doing so in eastern Ukraine than in the past.”

They have been in their western territory.

But the rubble makes conquest difficult.

Remember Stalingrad.

The Nazis bombed Stalingrad, Russia, until the Stone Age in World War II, but then had to try to move between the debris in small units to secure it and they couldn’t do it.

So expect the Russians to adjust some tactics.

“The Russians have shown the ability to learn and adapt,” said Arquilla.

“In the first winter war against the Finns, from 1939 to 1940, the same thing happened to the Russians when they first invaded Finland. They were beaten by the Finns using these small team tactics. Then the Russians backed off, reorganized and came back a little smarter and finally overwhelmed the opponent. My understanding is that the Russians have actually been activating more naval infantry units, which are used to operating in smaller teams.”

So expect them to be heavier on infantry and less heavy on tanks in the next phase.

That said, he added, the Ukrainians “should still have the upper hand in terms of finding, and they are already used to operating in these very small units.

The Russians are much more centralized.

One of the reasons they have killed so many generals is that, on a tactical level, they don't have people who are empowered to take those quick decisions in a gunfight; only general officers can do it, so they had to go to the front lines and do things that US Army lieutenants and sergeants routinely do."

One of the most intriguing aspects of the conflict in Ukraine is Russia's apparent lack of cyber warfare.

"The Russians employed cyber-based attack tools to disrupt Ukrainian command and control, but had little overall effect due to the highly targeted operations. decentralized of the regular defense forces and militias of Ukraine," explained Arquilla.

At the same time, the Russians appear reluctant to launch a major cyberattack against infrastructure in the United States and against the other NATO countries helping Ukraine, fearing that doing so now will allow NATO learn on Russia's most advanced cyber tools and build defenses. Against them.

Russia needs to save its cyber weapons for a major war with the West. So, Arquilla observed, "it may be that when it comes to strategic cyber warfare, the prospect of all sides facing a mutually assured disruption may actually produce a kind of cyber deterrence".

As for Russia's vaunted air superiority, Arquilla said, "we have already seen how vulnerable their planes and helicopters are to Stingers. This will not change in the next phase of the war."

In short, Arquilla said, "I am not saying that the Russians are going to be pushed out of eastern Ukraine. I am trying to answer the question:

Why have the Ukrainians done so well? And it is because they have applied all these new rules of modern warfare".

And since they will surely continue to do so, it portends a new round of long, terrifying and mutually destructive warfare in which neither side is likely to be able to deliver a knockout blow.

After that, who knows?

I still hope that Putin the fool will finally seek a dirty deal and that save facewhich implies the withdrawal of Russia, some kind of independent status for the most pro-Russian eastern regions of Donetsk y Luhansk and that Ukraine not be a member of NATO, but give Ukraine a green light to join the European Union, along with security guarantees against another Russian invasion.

It may happen soon.

"The harder the fight, the harder the Ukrainian resistance, thanks to the forms of war they are promoting, the more the risk of escalation grows," said Arquilla.

"But Putin has bullied Russian civil society into submission. And the Russian military, so embarrassed by its relatively poor performance, is unlikely to turn on it. So he probably thinks he's not under time pressure to de-escalate."

And that, ladies and gentlemen, is how small wars turn into great wars.

"I recently reread Barbara Tuchman's 'The Guns of August,' about how great powers stumbled upon the First World WarArchilla said.

"It is a warning that is still relevant."

Opinion | Free Advice for Putin: 'Make Peace, You Fool' - The New York Times (nytimes.com)
Free advice for Putin: 'Make peace, fool' - Zyri
Free advice for Putin: 'Make peace, you fool' | Deccan Herald

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Ukraine and the 'New Rules of War'

(Outside the Beltway 14 Apr 22) … James Joyner

Today's column by Tom Friedman, "Free Advice for Putin: 'Make Peace, You Fool'," is insightful because, instead of relying on a conversation with a taxi driver, it instead relies on one with "one of America's premier teachers of grand strategy, John Arquilla, who recently retired as a distinguished professor of defense analysis at the U.S. **Naval Postgraduate School**."

I've referenced Arquilla a handful of times going back to the earliest days of the blog and even interviewed him (along with Dave Schuler) on the late, lamented OTB Radio* show back in 2010. His insights on the evolution of warfare, and especially the impact of information, have been quite prescient and predicted many of the trends that have contributed to Russia's embarrassingly poor showing against a much smaller force in Ukraine.

"In many respects, this war is our era's Spanish Civil War. In that war, many weapons — like Stuka dive bombers and Panzer tanks — were tested out by the Germans, and the allies learned things as well, before World War II. The same is being done in Ukraine when it comes to next-generation warfare."

Arquilla recently published a book on next-gen warfare, "Bitskrieg: The New Challenge of Cyberwarfare."

"In that book, I outlined the three new rules of war, all of which I am seeing being employed by the Ukrainians," he explained. "The first is that many and small beats large and heavy. The Ukrainians are operating in squad-level units armed with smart weapons, and these are able to disrupt far larger formations and attack slow-moving, loud helicopters and such. So even though they're outnumbered by the Russians, the Ukrainians have many, many more units of action — usually between eight and 10 soldiers in size."

Arquilla said that these small Ukrainian units armed with precision-guided smart weapons like killer drones, antiaircraft weapons and light anti-tank weapons "can take out the Russians' much larger and more heavily armed tank units."

The second rule of modern warfare playing out in Ukraine, he said, "is that finding always beats flanking. If you can locate the enemy first, you can take him out. And especially if the enemy is made up of a few large units, like a 40-mile-long convoy of tanks and armored personnel carriers, you're going to hammer the hell out of them with your small squads, without having to outflank them with an equal-sized force."

I asked Arquilla why the Ukrainians are so good at finding. (I assume they are getting some reconnaissance help from NATO.)

"The Ukrainians are making very good use of small drones, particularly those Turkish drones, which are tremendous," said Arquilla. But it's their human sensors — the informal Ukrainian observer corps — that are devastating the Russians. Grandmas with iPhones can trump satellites.

"The Ukrainian observer corps is made up of babushkas and kids and anyone else who has got a smartphone," he said. "And they've been calling in the locations of where the Russian units are and where they're moving. And so the Ukrainian forces have this big edge in finding the Russians in this big country, and that is giving their small units with smart weapons" real-time, actionable intelligence.

The third rule of new-age warfare playing out in Ukraine, said Arquilla, is that "swarming always beats surging." He explained: "War is not just a numbers game anymore. You don't need big numbers to swarm the opponent with a lot of small smart weapons. I am sure you've seen some of the videos of these Russian tanks and columns, where suddenly one tank gets taken out at the front and then another at the rear, so the Russians can't maneuver, and then they just get picked off."

He's been making some of these arguments going back at least as far as his assessments of failed US counterinsurgency efforts in 2013 but he was at least hinting at them going back to his 2001 RAND classic Networks and Netwar (with David Ronfeldt).

Regardless, it helps explain why a country without a navy has sunk two Russian vessels.

Ukraine and the 'New Rules of War' (outsidethebeltway.com)

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A Ukrainian State of Mind

(War on the Rocks 13 Apr 22) … Siamak Tundra Naficy

In On the Origin of the Species, Charles Darwin wrestled with the question of why people would ever be willing to risk themselves for strangers. Only in 1871, in The Descent of Man, did Darwin find an answer: Societies that include brave people in their population would have an advantage when faced with hopeless causes — situations in which the brave act without regard for personal survival in the event of success. In other words, particularly in existential conflicts when losses against a competing group could mean genetic or cultural extinction, moral commitments to group loyalty, sacrifice, and heroism are most consequential.

In his shifting justifications for war against Ukraine, Vladimir Putin has rejected Ukraine's right to nationhood, depicting Ukrainian national identity as a fiction resulting from errors made by his predecessors in the Kremlin, going back to Vladimir Lenin. This is not a new argument for Putin: During a NATO summit in Romania in April 2008, Putin argued, "Ukraine is not even a state. What is Ukraine? A part of its territory is [in] Eastern Europe, but a[nother] part, a considerable one, was a gift from us!" Nor are these views rare among Russian elites. In April of 2016, Russia's then-Prime Minister Dmitry Medvedev declared that there was "no state" in Ukraine. In February, Vladislav Surkov, who served as an advisor to Putin for more than 20 years before falling from favor in 2020, argued

There is no Ukraine. There is Ukrainianism: a specific mental disorder…. A muddle instead of a state. There is borscht, Bandera, bandura. But there is no nation. There is a pamphlet called "Samostiyna Ukraine" [Independent or Sovereign Ukraine], but there is no Ukraine.

In a long polemic he published last year, Putin referred to Russians and Ukrainians as "one people," arguing that it is the West that attempts to enforce a "change of identity" and wrest Ukraine away from its rightful place in Russia's orbit.

With its invasion, Moscow put this view to the test. And it has failed in the crucible of war. Oxana Shevel suggests that one of Putin's biggest mistakes has been his belief that Russian soldiers would be welcomed as liberators, and that the Zelensky government would quickly fall, with a pro-Russian quasi-independent Ukraine following suit. She explained:

For Ukrainians, it is an existential struggle for survival. It's really nothing less than that. Ukrainians are very well aware that Putin's end goal is the destruction of their sovereign nation as such. He denies Ukrainians a separate identity and Ukraine's right to exist as a sovereign state.

So, instead of being greeted as liberators, Russian troops have been greeted with insults and Ukrainian flags, even in areas that were seen as the most Russia-friendly parts of the country before the war.

In launching his war on Ukraine, Putin overlooked the utility of violence and war in remaking identities. Identities are constructions of their times, and are subject to the specific categories of use in a particular historical period and the forces that animate them. Human beings tend to draw more closely to whatever identity is currently under threat. Even a feature or category that we do not consider meaningful to our sense of self can take on great meaning if we believe we are being treated badly for it. In this way, identity (national, ethnic, tribal, or religious) can be an outcome of war rather than its cause, and it is normal for a "we" identity to emerge when "we" are being collectively threatened. As Harvard anthropologist John Comaroff noted, "It is … in situations of struggle and times of trouble that the content of ethnic self-consciousness is (re)fashioned."

A March 18 study across all Ukrainian oblasts (excluding Russian-occupied Crimea and Donbas) by Rating Group Ukraine, an independent, non-governmental research organization, demonstrates that the war has already helped to reduce regional differences such that, "Russia and Belarus are considered hostile countries by the vast majority of Ukrainians, regardless of place of residence." In other words, the vast majority of Ukrainians throughout the country, even in the historically more Russia-friendly east, now see Russia as an adversary.

It is true that Ukraine and Russia's origins are intertwined, overlapping in the first Slavic state, Kievan Rus. However, Ukraine has its own history of changing religions, borders, and peoples that goes back more than a thousand years. Its capital, Kyiv, officially celebrates its founding year as 482 and was already a major city while Moscow was still a small village. Kyiv's legendary and eponymous

founder Kyi, along with his brothers Shchek and Khoryv, and sister, Lybid, are often depicted as arriving on a Viking-style longboat. But soon after Putin's accusations of Lenin creating Ukraine, Ukrainian Facebook users shared photoshopped images of Lenin at the head of this legendary longboat. This satirical picture illustrates how the Ukrainian sense of nationhood, going back to at least the medieval period, is deeply at odds with Putin's notions of a modern date of origin.

Of course, what is even more impactful is that they are at war. And war and violence can craft mutually constitutive identities among both sides of a conflict. The Euromaidan Revolution, also known as the Revolution of Dignity, and past Russian threats and aggressions have already done much to strengthen Ukrainian state identity. Olga Onuch, who has been part of several studies gauging Ukrainian identity and political attitudes, says that the data following Euromaidan demonstrated that already, "civic identity or state attachment was extremely strong amongst Ukrainians," but adds that "[a]s the conflict escalated, so did support for the Ukrainian state."

Back then, Ukrainians of diverse origins collectively stood against the pro-Russian government of Viktor Yanukovych, as they now resist Russia's brutal efforts to reimpose direct influence over the nation. Onuch, along with colleagues Henry E. Hale and Gwendolyn Sasse note that there are signs that in Ukraine, "civic identity is gaining ground at the expense of ethno-nationalist identity." So, although Ukrainians in the south and east largely favored pro-Russian presidential candidates from 2004 to 2014, that support evaporated by 2019. In 2015, 56 percent of Ukrainians considered the various nationalities of Ukraine as constituting a Ukrainian nation, compared to just 39 percent in 2007.

Any country, Ukraine included, that has been the target of aggression is likely to experience a "rally 'round the flag" effect, a well-studied phenomenon that can help to fashion a larger civic and national identity. But this experience, it should be noted, can also come with a greater appetite for punitive violence. In this way, while the necessity to defend against foreign aggression can help build solidarity among local identities, it can also adversely affect chances for diplomatic solutions.

People generally are more willing to accept grievous losses during violence than in diplomacy. The case for militarism and violent solutions may be more effective at recruiting support because we need only appeal to the moral responsibility of fighting evil, whereas a persuasive case for diplomacy depends on establishing clear criteria of effectiveness as well as confidence that it can be accomplished. In this way, it can be "very hard to talk" to a vicious aggressor, as the defender feels morally obligated to retaliate against such violence with retributional force — even if that retaliation ultimately does more harm than good. People who believe they are fighting a defensive war against a brutal aggressor may find it harder to put down the gun and pick up the pen.

Such emotionality may have been adaptive in humanity's distant past: early groups of humans who imagined an "us" through the observance of sacred principles that connected and bound them together would have had an advantage over those who did not. There is at least some anecdotal evidence this is so — religio is Latin for "re-connect", after all. This idea of sacred connections would have particular importance for cultural survival, when the community of "us" was on the losing side of an existential conflict.

A recent study sheds more light on the wartime "rally 'round the flag" effect. Political scientists analyzed implicit biases among 600 respondents that self-identified as either ethnic Russian or Ukrainian, across four Ukrainian cities. Implicit associations are valuable because they can be good predictors of behavior, often more than explicitly declared views. They found that a year after Russian hostilities began in 2014, on average, ethnic Ukrainians and Russians in Ukraine were both implicitly and explicitly biased in favor of Ukraine. This suggests that ethnic minorities are not necessarily biased in favor of the country with which their ethnic identity is generally associated. Instead, their analysis suggests that where the state associated with their ethnic identity is the aggressor, a significant bias can form in favor of the home state. Thus, in a country that has been the victim of aggression, instead of fragmentation of its citizens among local ethnic identities, the formation of a "supraethnic" or a civic national identity may manifest. In this way, further aggression against Ukraine by Russia today is predicted to reinvigorate national identity among Ukrainian citizens.

Whatever Putin imagines Ukrainian national identity is — it is Russian aggression against Ukraine itself that can flesh out and bolster what it means to be Ukrainian. The experience of collective defense

and sacrifice against Russia can itself work to instantiate and radicalize this new sense of Ukrainian national identity ever more widely.

For identity is the stuff of meaning; being with and belonging to others who share our sense of self is central to the meaning of identity. We can only be "us" when we are together, both now and also by feeling connected to others before us and after us, through our shared history — in this way, group identity makes us feel our sufferings and victories are honored and celebrated. It is the threat itself that, through prompting sacrifices, can help create and affirm bonds of affection, solidarity, and resilience.

What, then, of Russian identity? There has been much ink spilled on the idea of Russian resiliency. But it is worth noting that the Russians mustered their greatest successes in defense of their homeland against Napoleonic France and the Germans in WWII, not as an invading army. While on the offensive, they lost to the Japanese, they lost in Afghanistan, and they lost The First Chechen War.

But the sacrifices endured in defense of the city in the Battle of Stalingrad were a rallying cry during World War II. The sentiment persists even today, and the city is still a symbol of patriotic sacrifice and unity for Russians. It is ironic, then, that the Russians are making multiple Stalingrads in Kharkiv, Kyiv, and Chernihiv today.

This can readily be seen in the growing sense of Ukrainian nationalism, the use of yellow and blue Ukrainian colors, along with the "Saint Javelin" iconographies, combining Ukrainian nationalism, religious imagery, and violence. When we saw this fusion of religion, nationalism, and violence in Lebanon, Syria, Yemen, Afghanistan, and Iraq, the question was "whether Islam was a violent religion?" After all, all these diverse places had only one thing in common, the argument went — religion. But of course, these places had something else in common — they were active zones of conflict. When people face an existential threat from a superior enemy, they draw on all aspects of their identity for meaning, motivation, and inspiration — religion included.

Samuel Huntington had it the wrong way around. It's not a conflict of belief between cultures or "civilizations" that leads to war; it is war that refashions our ideas of self, community, and belief. In this way, Putin may find that now, even more than Lenin, his legacy will be of the man who helped make Ukraine.

Siamak Tundra Naficy is a senior lecturer at the **Naval Postgraduate School's** department of Defense Analysis. An anthropologist with an interdisciplinary approach to social, biological, psychological, and cultural issues, his interests range from the anthropological approach to conflict theory to sacred values, cognitive science, and animal behavior. The views expressed are the author's and do not reflect those of the Department of Defense, the U.S. Navy, the U.S. Army, or the **Naval Postgraduate School**.

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Sitting Out of the Artificial Intelligence Arms Race Is Not an Option

(National Interest 15 Apr 22) … John Arquilla

Viewing the dangerous advances in military technology, from Nazi V-weapons to hydrogen bombs, investigative journalist I.F. Stone once described arms races as the inevitable product of there being "no limit to the ingenuity of science and no limit to the deviltry of human beings." This dark truth about the era of human-controlled "kinetic" weapons of mass destruction that so concerned Stone remains true today of the emerging range of increasingly automated systems that may now be fusing scientific ingenuity with a silicon-based deviltry of all its own.

For most of history, from stones to siege guns, warfare consisted of hurling some amount of mass with sufficient energy to do serious harm. The general trend has been toward increasing mass and energy, giving weapons greater range. Yet, until the first automated guidance systems came into play during World War II, the "information content" of weaponry was quite small, reducing accuracy. But what began with the first ballistic and cruise missiles in 1944 quickened in the following decades, to the point that

some missiles had electronic brains of their own to guide them in flight, like the American Tomahawk that went into service in 1983. Even though it's launched at human command, once underway its "brain" does all of the sensing and maneuvering, over whatever distance, with precision accuracy.

And this increasing information content of weapons isn't just for long-range use. The stalwart Ukrainian defense that has hammered so hard at Russian tanks and helicopters has been greatly enhanced by smart, short-range anti-tank Javelins and anti-aircraft Stingers. Thus, the much heavier and more numerous invading forces have been given a very hard time by defenders whose weapons have brains of their own.

But this is just a small slice of the rising space into which automated systems are moving. Beyond long-range missile strikes and shorter-range battlefield tactics lies a wide variety of other military applications for artificial intelligence. At sea, for example, the Chinese have more than two dozen types of mines, some of which have significant autonomous capabilities for sensing the type of enemy vessel and then rising from the seafloor to attack it. Needless to say, U.S. Navy Ford-class carriers, costing $10 billion-plus per, can be mortally threatened by these small, smart, cheap weapons. As for the Russians, their advances in naval robotics have led to the creation of an autonomous "U-bot" that can dive deep and locate fiber-optic links, either tapping into or severing them. More than 95 percent of international communications move through the roughly 400 of these links that exist around the world. So, this bot, produced even in very small numbers, has great potential as a global "weapon of mass disruption."

There are other ways in which silicon-based intelligence is being used to bring about the transformation of war in the twenty-first century. In cyberspace, with its botnets and spiders, everything from economy-draining "strategic crime" to broad infrastructure attacks is greatly empowered by increasingly intelligent autonomous systems. In outer space, the Chinese now have a robot smart enough to sidle up to a satellite and place a small explosive (less than 8 lbs.) in its exhaust nozzle—and when the shaped charge goes off, the guts of the satellite are blown without external debris. Mass disruption is coming to both the virtual and orbital realms.

The foregoing prompts the question of what the United States and its friends and allies are doing in response to these troubling advances in the use of artificial intelligence to create new military capabilities. The answer is as troubling as the question: "too little." Back in 2018, then-Under Secretary of Defense for Research and Engineering Michael Griffin acknowledged that "There might be an artificial arms race, but we're not in it yet." There was a glimmer of hope that the Americans might be lacing up their running shoes and getting in the AI arms race when Eric Lander became President Joe Biden's science advisor in January 2021, as he had publicly stated that "China is making breathtaking progress" in robotics and that the United States needed to get going. But Lander apparently didn't play well with others and resigned in February 2022. Given that NATO and other friends tend to move in tandem with the Americans, all are too slow getting off the mark.

Beyond personnel issues, the United States and other liberal and free-market societies are having some trouble ramping up to compete in the robot arms race for three other reasons. The first is conceptual, with many in the military, political, and academic circles taking the view that advances in artificial intelligence do not fit classical notions and patterns of weapons-based arms races. It is hard to make the case for urgency, for the need to "race," when there doesn't even seem to be a race underway.

Next, at the structural level, the United States and other free-market-based societies tend to see most research in robotics undertaken by the private sector. The Pentagon currently spends about 1 percent of its budget (just a bit over $7 billion) on advancing artificial intelligence. And in the American private sector, much of the research in AI is focused on improving business practices and increasing consumer comfort. Whereas, in the case of China, about 85 percent of robotics research is state-funded and military-related. The Russians are following a kind of hybrid system, with the Putin government funding some 400 companies' research in "strategic robotics." As Putin has said in a number of his speeches, the leader in artificial intelligence "will become master of the world." So, it seems that the structure of market societies is making it a bit harder to compete with authoritarians who can, with the stroke of a pen, set their countries' directions in the robot arms race and provide all necessary funding.

The final impediment to getting wholeheartedly into the robot arms race is ethical. Throughout the free world, there is considerable concern about the idea of giving "kill decisions" in battle over to

autonomous machines. Indeed, there is so much resistance to this possibility that a major initiative at the United Nations has sought to outlaw "lethal autonomous weapon systems" (LAWS). Civil society NGOs have supported this proposed ban and drawn celebrity adherents like Steve Wozniak and Elon Musk to the cause. Pope Francis has joined this movement, too.

One of the main concerns of all these objectors is about the possibility that robots will unwittingly kill innocent non-combatants. Of course, human soldiers have always caused civilian casualties, and still do. Given the human penchant for cognitive difficulties rising from fatigue, anger, desire for revenge, or just the "fog of war," there is an interesting discussion that needs to be had about whether robotic warriors will be likely to cause more or possibly less collateral damage than human soldiers do.

So far, the United States, Britain, and a few other democracies have resisted adopting a ban on weaponized robotics; but the increasingly heated discourse about "killer robots" even in these lands has slowed their development and use. Needless to say, neither China nor Russia has shown even the very slightest hesitation about developing military robots, giving them the edge in this arms race.

It is clear that the ideal first expressed eighty years ago in the opening clause of Isaac Asimov's First Law of Robotics, "A robot may not injure a human being," is being widely disregarded in many places. And those who choose to live by the First Law, or whose organizational structures impede swift progress in military robotics, are doomed to fall fatally behind in an arms race now well underway. It is a race to build autonomous weapons that will have as much impact on military affairs in the twenty-first century as aircraft did on land and naval warfare in the twentieth century. Simply put, sitting out this arms race is not an option.

John Arquilla is Distinguished Professor Emeritus at the United States **Naval Postgraduate School** and author, most recently, of Bitskrieg: The New Challenge of Cyberwarfare. The views expressed are his alone.

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ALUMNI:

New President and CEO of Care and Share Food Bank for Southern Colorado Announced

(KKTV 14 Apr 22) … Tony Keith

A man with more than two decades of experience in the military will be leading the Care and Share Food Bank for Southern Colorado.

The board of directors for the non-profit organization introduced Nathan Springer as the new president and CEO on Wednesday. Springer brings more than 23 years of executive leadership as a U.S. military commander, most recently as the garrison commander of Fort Carson in Colorado Springs.

"I've served military families for the last 24 years on behalf of our country. The opportunity to extend that service to the families of southern Colorado is humbling. I am honored to follow the great Lynne Telford at Care and Share, learn from our fantastic staff and volunteers, and give my all to this organization, our partners, and our community. I look forward to fulfilling Care and Share's mission that no one in Southern Colorado should go hungry," said Springer.

ABOUT CARE AND SHARE FOOD BANK:

As a food bank, Care and Share works to gather and sort food from multiple sources, distributing to more than 270 partner food pantries and meal programs. The organization provides more than 20 million meals, at no cost, to people across 31 counties each year.

MORE ABOUT SPRINGER:

Springer has held transformational leadership roles in the US military. He was appointed as Garrison Commander of Fort Carson in 2020, where he specialized in strategic and operational planning, and led a

team of more than 1,500 civilian employees. Prior to his position at Fort Carson, Springer was a professor at the School of Advanced Military Studies at Fort Leavenworth, Kansas.

Springer received a Bachelor of Science in Business Marketing from Oklahoma State University. He received his Master of Arts in Security Studies from the **Naval Postgraduate School**; Master of Military Arts and Science from Military History at Fort Leavenworth; and Master of Arts in Strategic Studies from War College at Fort Leavenworth.

New president and CEO of Care and Share Food Bank for Southern Colorado announced (kktv.com)

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Q&A: Vice Adm. Roy Kitchener, Commander, Naval Surface Forces, Commander, Naval Surface Force, U.S. Pacific Fleet

(Sea Power Magazine 15 Apr 22) … Richard R. Burgess

Vice Adm. Roy Kitchener assumed command of Naval Surface Forces and Naval Surface Force, U.S. Pacific Fleet in August 2020, and as a type commander he has guided the forces as he continues to man, train and equip the forces for duty in the fleet and service to the U.S. combatant commands. A native of Trumbull, Connecticut, and a 1984 graduate of Unity College with a Bachelor of Arts in political science, he attended the Navy Officer Candidate School in Newport, Rhode Island, and received his commission in 1985. He also attended the **Naval Postgraduate School** where he specialized in Western Hemisphere studies and earned a Master of Arts in national security affairs.

As a surface warfare officer, he deployed around the world and commanded destroyers, cruisers and an expeditionary strike group. At sea he served as a division officer aboard USS Dewey (DDG 45); operations and training officer for Special Boat Unit 26, Republic of Panama; combat systems and weapons officer aboard USS San Jacinto (CG 56); executive officer aboard USS Cowpens (CG 63); and operations officer and chief of staff for Commander, Carrier Strike Group 11. He commanded USS John Paul Jones (DDG 53) and USS Higgins (DDG 76) during the Navy's Sea Swap Initiative, and also commanded USS Princeton (CG59) and Expeditionary Strike Group 2.

Ashore, Kitchener served as the Surface Warfare Directorate's Naval Surface Fire Support program officer on the staff of the Chief of Naval Operations; combat systems instructor at Surface Warfare Officers School; ballistic missile defense operations chief at the Cheyenne Mountain directorate at Commander, U.S. Northern Command; and vice commander of Naval Mine and Anti-Submarine Warfare Command. He served as the chief of staff at numerous commands, to include commander, U.S. 3rd Fleet; commander, Naval Surface Forces; commander, Naval Striking and Support Forces North Atlantic Treaty Organization (NATO); and U.S. deputy military representative to the NATO Military Committee. Most recently, he was commander, Naval Surface Force, U.S. Atlantic Fleet.

Kitchener responded to questions about the surface Navy fleet from Senior Editor Richard R. Burgess.

The surface Navy is better armed today than it was decades ago, when it was primarily an anti-air and antisubmarine escort force. How has that improvement affected the morale and professionalism of surface warriors?

KITCHENER: No doubt, we have seen tremendous improvements in our network and sensors that give our ever-improving weapons better speed, range and precision. However, I would propose it is our training investments that have had the most impact on the professionalism of the force. The surface force develops leaders, warriors, mariners and managers, and each of these roles requires training, education and mentoring. A well-trained Sailor is a confident Sailor. That is why we have dedicated more than $5 billion to the Surface Training Advanced Virtual Environment for Surface Force training. Approximately 200 STAVE projects are supporting training in all areas of individual and waterfront training, including navigation and seamanship, engineering, damage control and combat systems. Furthermore, nearly 66%

of all afloat billets benefit from STAVE. This training and the human factor programs that we have in place directly contribute to improving our Sailors' professionalism and morale.

The surface Navy has had few combat actions at sea since World War II. How confident are you that today's surface warriors are trained and conditioned to maneuver and fight as well as execute damage control should they fight a peer competitor?

KITCHENER: We are highly confident in the training and professionalism of our surface force. As previously stated, we have dedicated a significant amount of resources to ensure our force is trained and ready to meet today's operational challenges. In addition to investing in STAVE, we are also building the physical and digital infrastructure to support this vast amount of training we are providing to our force.

Most notably, the Mayport [Florida] and Sasebo [Japan] Shiphandling Trainers opened for business in 2021, bringing the number of learning sites to 10 overall and ensuring a site in nearly every fleet concentration area. The Mariner Skills Training Centers in San Diego and Norfolk began hosting a two-phase Officer of the Deck [OOD] course, which shifted from a JOOD [Junior OOD] course to a two-phase OOD curriculum. The change freed up the Advanced Division Officer Course to expand its focus on maritime warfare. ADOC is now providing junior officers with three weeks of maritime warfare training instead of one, allowing us to lay the warfighting foundation earlier in an officer's career.

Regarding specific warfighting training, we are installing virtual operator trainers, or VOTs, in all homeports to provide Sailors with training for the AV-15 sonar system and Aegis Baselines 9 and above. In Yokosuka, Pearl Harbor and San Diego, the sonar trainers are up and running and the Aegis VOTs in Yokosuka and Pascagoula are soon to follow.

Finally, we have worked with the numbered fleet commanders to retool and enhance the high end, at-sea training ships receive prior to deploying to ensure they are ready to defeat current day threats. Never before has our force possessed this quality of warfighting training systems in our homeports, and they are available to commanding officers to build their teams' skills.

Has the seamanship of the force been improving to meet your expectations in the five years since the McCain and Fitzgerald incidents?

KITCHENER: Yes. We have made significant investments to increase the amount and depth of training that junior surface warfare officers receive before they report to their ship.

We introduced and implemented a revised SWO training and assessment continuum that employs navigation, seamanship and ship handling assessments across all career milestones.

We also implemented NSS/go/no-go assessments with four no-go criteria established for a SWO career path, which means that no one gets a pass simply due to experience. We assessed all officers at every level, from brand new ensign to major commander. Those who do not pass their proficiency tests do not assume command of ships at sea. Our standard: To be a professional mariner is more rigorous now than ever.

For our younger officers, the two-phased OOD course provides advanced practical instruction in navigation, seamanship, and ship handling in high-end simulators, emphasizing rules of the road, high-density shipping, in-extremis maneuvering and watch team management.

How are simulators making better surface warriors?

KITCHENER: With the number and complexity of systems and platforms planned to join the fleet in the next decade, the requirement for clear and innovative operational concepts is critical. Simulators provide our surface warriors with a controlled environment to develop and refine their mariner skills. By perfecting these skills in a teachable setting, Sailors can enter the fleet with the most advanced knowledge.

What are the chief challenges to improving force readiness?

KITCHENER: The completion of depot level maintenance on time continues to be a significant challenge. We have invested in analytics to help us improve in this area.

As I said at SNA [Surface Navy Association convention] earlier this year, we have seen improvements in two key metrics that we are using to gauge our progress: days of maintenance delay and on-time completion rates. Since 2019, we have reduced our days of maintenance delay by 41%. Our on-time completion is steadily increasing, from 34% in fiscal year 2019 to a projected 59% for all 2021 avails, including those ongoing that began in fiscal year 2021. We still have more to do, but it has been satisfying to see that the process is working.

Overcoming this challenge is even more important as we deliver modernization upgrades to the fleet, capability that is essential to maintaining our warfighting advantage. The SPY-6 radar and AN/SLQ-32(V)7 electronic warfare suite are a couple of examples of the extensive modernization programs that we will introduce to the fleet. The effective and timely execution of our maintenance and modernization packages during depot avails will be even more important to force readiness as we install this vital capability.

You have spoken about reimagining fleet introduction. What do you mean by that?

KITCHENER: Historically, NAVSEA's [Naval Sea Systems Command's] fleet introduction team provided oversight on the acquisition process and integrated the various program offices in the delivery of a new ship. Independently, the type commander's fleet introduction team would be responsible for actually integrating the ship into the fleet. We feel that a good look at this process will provide us a better process. Reimagining means thinking differently about this process so that the type commander is more engaged in the acquisition process overall, and that the program offices can deliver new ships and capabilities that integrate with the fleet more effectively and efficiently. We anticipate that this review should have significant positive impact and therefore I've asked Rear Adm. Brendan McLane at CNSP [commander, Naval Surface Force, U.S. Pacific Fleet] to take on this task.

We are introducing at least 10 new or modernized platforms to the force in the next decade, and believe that effective fleet introduction is critical to maintaining a competitive advantage.

What is the role of Task Force LCS that stood up last spring?

KITCHENER: We stood up Task Force LCS to consolidate efforts and drive actions across the LCS [littoral combat ship] program. Experts across the Navy are working together to analyze, develop and rapidly implement improvements to LCS platform reliability, sustainability, lethality and operational employment. The task force, led by Rear Adm. Robert Nowakowski, continues to provide databased recommendations and solutions to improve the reliability and sustainability of the LCS program.

What will be the role of the unmanned surface vessel division standing up this summer? How has Surface Development Squadron One been pushing the envelope in unmanned systems?

KITCHENER: This summer, USV Division One will stand up and grow to 103 Sailors in 2022 to provide dedicated support to USV operations. The command will be led by an O5 SWO commander and will report to SURFDEVRON [Surface Development Squadron] One and operate out of Port Hueneme, California. USVDIV 1 will be focused exclusively on USV experimentation and fleet advocacy with our program offices. The division will be a cornerstone in building the foundational knowledge required for Sailors to operate and maintain the USV fleet and spearhead the development of the processes required for USV operations and sustainment.

With the Zumwalt class to be armed for hypersonic weapons, do you expect them to deploy before their conversion? When do you expect the first conversion to start and what is the planned IOC year for them with conventional prompt strike?

KITCHENER: The Navy's Conventional Prompt Strike Program is developing a non-nuclear hypersonic weapons system that will enable precise and timely strike capability in contested environments. Fielding hypersonic weapons is a top technical research and engineering priority and the Navy continues to accelerate the development of hypersonic capabilities. The Navy is on track to field the CPS on Zumwalt-class destroyers in fiscal 2025.

In support of the Zumwalt class, being the first platform to deliver CPS capability, the Navy commenced engineering design planning that will allow for integration of CPS during a planned fiscal 2024 dry-docking selected restricted availability. The ship's relatively large volume and timing of her already scheduled dry docking availability are key enablers to rapidly field CPS capability in USS Zumwalt.

Looking on the success of the DDG 51 class, what capabilities do you want to see in DDG(X)?

KITCHENER: The DDG(X) class will capitalize on the success of the DDG 51 class by improving an already exceptional craft. DDG(X) will utilize a variant of the DDG-51 FLT III combat system integrated into a new hull form with flexibility for upgrades, an efficient integrated power system and greater endurance, reducing the fleet logistics burden.

Q&A: Vice Adm. Roy Kitchener, Commander, Naval Surface Forces, Commander, Naval Surface Force, U.S. Pacific Fleet - Seapower (seapowermagazine.org)

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Former Kid From Baldwin Set To Command Flight To Space Station

(News Day 16 Apr 22) … Craig Schneider

Jasmin Moghbeli, who dreamed of becoming an astronaut as a kid in Baldwin, will take her first trip into space, serving as spacecraft commander for a flight to the International Space Station, NASA has announced.

The SpaceX Crew-7 mission is expected to launch no earlier than 2023 on a SpaceX Falcon 9 rocket from NASA's Kennedy Space Center in Florida, according to an agency statement.

It has been a long journey for Moghbeli, who first dreamed of being a space explorer in Lenox Elementary School in Baldwin. She wrote a sixth-grade book report on the first woman in space, Soviet cosmonaut Valentina Tereshkova, and was bitten by the space bug.

Her mother, Fereshteh Moghbeli, interviewed by phone Friday, recalled that she and her daughter put together a makeshift spacesuit for the project, made of white windbreaker jackets, a plastic face mask and snow boots.

"It looked so funny, but back then we thought it was creative," said her mother, 67, who now lives in Texas. "From then on, that's what she wanted to do."

From breaking news to special features and documentaries, the NewsdayTV team is covering the issues that matter to you.

Her daughter was a consistently high-achieving student, from Lenox through her graduation from Baldwin High School, where she played basketball and lacrosse, she said. And her family supported her dreams of space exploration.

"We always thought there was a chance," said Fereshteh Moghbeli. "She's a very hard worker."

Her parents chose to live in Baldwin for its good schools, and were pleased to learn it was a multicultural area, she said.

"Both our kids saw people from everywhere, every ethnicity, every background," she said. Jasmin, 38, who also now lives in Texas, has an older brother, Kaveh Moghbeli.

Jasmin Moghbeli went on to earn a bachelor's degree in aerospace engineering from the Massachusetts Institute of Technology and a master's degree in aerospace engineering from the **Naval Postgraduate School** in California. She became an AH-1W Super Cobra attack helicopter pilot and Marine Corps test pilot, logging over 150 combat missions.

When Moghbeli graduated from NASA's astronaut school in 2020, the ceremony was livestreamed into the gym at Lenox Elementary, where students watched and were treated to a video chat with her. Moghbeli was among 13 men and women chosen from 18,000 applicants for the class, which lasted two years.

During the video chat, she urged the young students to dream big, and to keep going when they face failure.

"When I was a sixth-grader and said I wanted to become an astronaut, did everyone believe that I would one day do it?" she told the children at the time, her image projected on a big screen. "You're going to fail at some point, but you just have to keep going."

The excitement of the late-March NASA announcement reached back to her school district.

"We're thrilled," said Baldwin Superintendent Shari Camhi, who said Friday she has been emailing congratulations to Moghbeli. "We're already working to have the kids communicate with her while she's on the space station."

The school system took pride, she said, in producing such a successful student.

"I don't know anybody this big, who is so gracious," Camhi said.

Moghbeli's mother said she is hoping her daughter goes even further in her dream of traveling among the stars. She is part of the space agency's Artemis project, which aims to place a man and a woman on the moon.

So she could become the first woman to walk on the lunar surface.

"It's a possibility," said Fereshteh Moghbeli. "We are very proud. It's wonderful."

Former kid from Baldwin set to command flight to space station - Newsday

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The Los Angeles Times Festival Of Books of 2022 presents, A Sailor's Advice on Life

(EIN News 15 Apr 22)

Author Cleveland O. Eason will be one of the featured authors in the upcoming Los Angeles Festival of Books 2022 with his published book titled A Sailor's Advice on Life. An autobiography book about the sailor's career of the author. In life there will always be beginnings, small steps of processing life and any person needs guidance to figure out themselves. A book that will encourage you to navigate life with your eyes wide open and realize your fullest potential. Further, it encourages constructive self-reflection and offers keen insights into why we do what we do and some lessons learned for those who want to learn from others' experiences.

"This is a book of knowledge that needs to be read by everyone! The author gives clear instruction based on his own life experiences on how to live and succeed in life! This book is an easy read that you can always go back to when you need advice or reassurance on a difficult situation that needs resolving in your life. A must-read and a great gift for all of your friends and family!" — Amazon Customer Review.

Cleveland O. Eason has a degree from Troy University, a master's degree in Systems Analysis from the **Naval Postgraduate School**, and a master of Business Administration. He is the son of a US Army First Sergeant, who completed two Vietnam combat tours and was a US Army boot camp drill instructor before retiring with twenty years of honorable service.

Mr. Eason entered the US Navy at the height of the Cold War and obtained the rank of Chief Petty Officer after nine years of service. He obtained the rank of Lieutenant Commander before retiring from active duty with twenty-three years of honorable service. His introspective reflections of those interactions allowed him to gain key insights into human behavior.

The Los Angeles Times Festival Of Books of 2022 presents, A Sailor's Advice on Life - EIN Presswire (einnews.com)

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