



NPS IN THE NEWS

Weekly Media Report – July 27-Aug. 2, 2021

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ADDITIVE MANUFACTURING:

[DoD To Ramp-Up 3D Printing Adoption Despite Watchdog’s Cyber Security Concerns](#)

(3D Printing Industry 28 July 21) ... Paul Hanaphy

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[Xerox’s first 3D printer lands at a California Navy college](#)

(The Fabricator 2 Aug 21) ... Holly B. Martin

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(Navy.mil 30 July 21) ... Matthew Schehl

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Gabrielle Lim of the Harvard Kennedy School, left, joins NPS’ Defense Analysis Associate Professor Camber Warren, center, and Joint Special Operations University faculty member at U.S. Southern Command Dr. Joseph Long, during a symposium panel session on Free Speech versus Disinformation in NPS’ Glasgow Hall, June 22-24, 2021.



FACULTY:

[NPS Cybersecurity Expert Explores ‘Weapons of Mass Disruption’ in New Book](#)

(Navy.mil 30 July 21) ... Mass Communication Specialist 2nd Class James Norket

(NPS.edu 30 July 21) ... Mass Communication Specialist 2nd Class James Norket

NPS Distinguished Professor of Defense Analysis Dr. John Arquilla just released his latest book, “Bitskrieg: The New Challenge of Cyber Warfare.” The work addresses the true nature of the emerging warfighting front of cyber operations, and what the United States can do to defend itself in cyber domain.

[Director of Center Operations Scott Mahone named Veteran Champion of the Year](#)

(The Den Mercer University 28 July 21) ... Kyle Sears

Mercer University Director of Center Operations and retired U.S. Army Lt. Col. Scott Mahone was recently named one of 19 inaugural Veteran Champions of the Year in Higher Education by G.I. Jobs® magazine... He was personally selected by the U.S. Secretary of Defense as a professor and lecturer of defense resources management at the Defense **Naval Postgraduate School** in Monterey, California, and handpicked by former Secretary of State Colin Powell as an executive officer in the Resources Management Directorate, U.S. Forces Command, at Fort McPherson, Georgia.

[Sókn Engineering Introduces Mubashir Kazi as an Advisory Board Member](#)

(Sokn Engineering 29 July 21)

Sókn Engineering today announced that Mubashir "Bash" Kazi has become the latest addition to its Advisory Board... Mr. Kazi is the founder & CEO of KIG, a security and defense sector investment and management firm that has executed and delivered on programs worth several billion dollars with US government agencies since 2002. He has over 30 years of information technology, security, project management and engineering experience at Fortune 500 companies including 3M and Exxon. Mr. Kazi holds engineering and technology management degrees from McGill University, Canada and Stanford University. Over the past 4 years, Bash has invested, developed and deployed in unique hyper realistic simulation platforms and cyber ranges at internationally recognized institutions such as the University of Texas, San Antonio and the U.S. **Naval Postgraduate School**, both of which are Centers of Academic Excellence for cyber security, to provide a unique cyber security training experience and curriculum that fills the urgent global resource and talent shortage in IT and OT security. In his spare time, Mr. Kazi is an avid polo and squash player.

[Erdogan’s “secret” weapon: this is how he can unleash the navy](#)

(Taylor Daily Press 31 July 21) ... Alfred Airaldii

The Turkey It has never denied the option of having naval mechanisms capable of taking its aircraft to the operational theaters involved. The crutch is a tool that makes it easier to challenge the rival powers of the Eastern Mediterranean and the Middle East, but above all Erdogan is a tool of power and a tool that some call the “naval case”. An obstacle is to show power. For all these reasons – except the fact that Turkey will be one of the few NATO powers to have such a unit at the disposal of its navy – possession of an aircraft carrier is inevitably a fundamental step in Ankara’s entire naval program... A precedent for this difficult situation in Ankara is that the progressive deviation from the West has so far led to three negative consequences for the naval sector: it has made it very difficult to obtain agreements of a military nature; The United States began secretly preventing the transfer of arms to Turkey; Finally, it is not possible for Angora to have a skilled aircraft carrier within NATO. This requires a clear reflection on the need to maintain even better relations with Turkey United States And Western allies. Ryan Gingeras, a professor at the **Naval Postgraduate School** and one of Turkey’s leading experts, explained. Another question that remains unanswered is whether the Turkish navy can actually operate independently from its allies. As most of its fleet with new bases and technologies is being tested to a limited extent, it remains to be seen whether Turkish ships will be able to withstand long deployments or combat operations. For this reason, experts still value the Turkish Navy as a coast guard.

[A Winning Formula to Biden’s War on Oil: Green Extraction](#)

(RedState 29 July 21) ... Hollie McKay

Poised in the remote, arid plains of Utah, steam billows into the clear blue sky, and an American flag flies high above the complex operation of extracting, and churning clean sand, and oil... And **Naval Post Graduate School’s Dr. Brenda Shaffer**, senior advisor for energy at the Foundation for Defense of Democracies (FDD), noted that



there are also significant geopolitical implications of moving from an energy system based on oil and natural gas to one based on electricity from other sources.

[Renewable Isn't Always Green](#)

(Real Clear Energy 2 Aug 21) ... Dr. Brenda Shaffer

The Biden Administration and the European Union have launched unprecedented and far-reaching policies to promote the use of renewable energy and low carbon emitting energy. While commonly people use the terms renewable and green interchangeably, they are in fact not similar at all. The most prevalent forms of renewable energy, such as hydropower and biomass, have high environmental impact—they may be “clean” but they are not “green.” ... Prof. Brenda Shaffer is a faculty member at the U.S. **Naval Postgraduate School**. She is also a Senior Fellow at the Atlantic Council’s Global Energy Center and Senior Advisor for Energy at the Foundation for Defense of Democracies (FDD) think tank.

ALUMNI:

[Colts Announce Changes To Football Operations Staff](#)

(Colts.com 27 July 21)

Brian Decker was named the Colts' director of team development. He enters his fifth season with the team and previously served as the director of player development from 2018-19. Decker joined the Colts as a player personnel strategist in 2017. He got his start in the NFL with the Cleveland Browns. Decker has consulted in all major professional sports on the selection and development of athletes. A military veteran who retired after 22 years of service and achieved the rank of Lieutenant Colonel in the Special Forces, his last assignment was commander of special forces assessment and selection. Decker oversaw the development and execution of the talent acquisition strategy to select future Green Berets. He graduated from Eastern Kentucky and then earned his master's degree in Defense Analysis from the **Naval Postgraduate School**.

[Alumnus takes charge of Ranger battalion](#)

(UNG.edu 26 July 21) ... Edie Rogers

Lt. Col. Kitefre Oboho, a 2002 alumnus of the University of North Georgia (UNG), has assumed command of the 3rd Battalion, 75th Ranger Regiment, Fort Benning, Georgia. The Ranger Regiment is one of the elite special operations forces of the U.S. military... Oboho earned a bachelor's degree in criminal justice from UNG and commissioned into the infantry in 2002. He earned a master's degree in defense analysis from the **Naval Postgraduate School** in 2015.

[USM Recognizes Newest Cohort of Hydrographic Science Graduates](#)

(USM.edu 29 July 21) ... Van Arnold

Nine students in the prestigious Hydrographic Science Program at The University of Southern Mississippi (USM) were recognized during graduation ceremonies held Wednesday, July 28 at the University’s Gulf Park campus in Long Beach... Costa Neves holds a master’s degree in meteorology and physical oceanography from the U.S. **Naval Postgraduate School** and a master’s in naval sciences from the Brazilian Naval War College.

[CSS Welcomes Stockton, Farewells Troy during Change of Command](#)

(DVIDS 28 July 21) ... Petty Officer 2nd Class Derien Luce

Center for Service Support (CSS) held a change of command ceremony at Naval Station (NAVSTA) Newport July 28... Stockton reports to CSS from his previous tour as director for the Total Force Manpower/Manning and Civilian Human Resources Directorate (N1) for NETC. A former enlisted cryptologist and surface warfare officer, Stockton is currently a human resources officer and graduate of Jacksonville University and the **Naval Postgraduate School** with a Master of Science in Manpower Systems Analysis. He is also certified as a Professional in Human Resources.

[Lt Gen Dhiraj Seth assumes command of 21 Strike Corps](#)

(Sify.com 31 July 21)

New Delhi, July 31 (IANS) Lieutenant General Dhiraj Seth on Saturday took charge of 21 Strike Corps, also known as Sudarshan Chakra Corps... He has also qualified on the International Defence Acquisition Management Course at **Naval Postgraduate School**, Monterrey, California.



UPCOMING NEWS & EVENTS:

August 2-6: Ordnance and Ballistics Technical Working Group Symposium

August 5: [Hybrid Force 2045 – Bi-Model Navy Vision](#)

August 9-13: [Center for Executive Education NSL Seminar](#)

August 17-20: [Center for Executive Education SC Workshop](#)

August 23-28: [Joint Interagency Field Experimentation \(JIFX\) 21-4](#)

August 24-26: High Energy Laser Technical Area Working Group Meeting

September 20: [WIC Workshop 2021: Hybrid Force 2045](#) (Registration Open)



ADDITIVE MANUFACTURING:

DoD To Ramp-Up 3D Printing Adoption Despite Watchdog's Cyber Security Concerns

(3D Printing Industry 28 July 21) ... Paul Hanaphy

The U.S. Department of Defense (DoD) has announced plans to roll out 3D printing across the country's military despite concerns raised by an independent watchdog that the technology creates "unnecessary cybersecurity risks."

With its first official 3D printing policy, the DoD has formally laid out how it intends to scale the technology's deployment across the U.S. Armed Forces. However, these plans are under increased scrutiny after a recent report issued by the DoD Inspector General, a Presidentially-appointed auditor, who claims that the DoD's 3D printers have access to its wider Information Network, making them vulnerable to sabotage by hostile actors.

When contacted by 3D Printing Industry regarding the Inspector General's concerns, NCDMM and America Makes' VP and CIO Joe Veranese suggested that the security issues raised can be rectified by technological rather than regulatory means.

"It is not a question of whether or not to connect a machine to a network due to potential vulnerabilities, but how to do it to ensure a secure connection," explained Veranese. "There are many innovative and secure ways to connect machines to a network to fully leverage the digital nature of advanced manufacturing."

Is AM a "cybersecurity risk?"

Broadly speaking, an Inspector General is a public official responsible for overseeing the operation of government agencies, ensuring that they're run as efficiently and fairly as possible. With regards to the DoD's watchdog specifically, their role includes reviewing proposed legislation and promoting policies that prevent abuse within defense operations, thus the DoD's 3D printing strategy falls well within their remit.

The Inspector General's main bone of contention with the policy, lies in the categorization of 3D printers as "standalone systems," instead of connected ones needing cybersecurity. Among the proposals made in the watchdog's report, they call for this to be rectified, and for the DoD to provide guidance on which regulation applies to 3D printing, to "reduce the risk of continued non-compliance."

The DoD Inspector General has also suggested that an Authorization to Operate (ATO) be required for military 3D printing, and for its part, the U.S. Air Force has agreed to implement this by 2022. However, the ombudsman's wider advice appears to have fallen on deaf ears, as the momentum of the DoD's 3D printing roll-out shows no sign of slowing down.

In a further escalation of tensions, the Inspector General recently raised new security concerns in a redacted audit, in which they alleged that five DoD sites failed to secure their systems appropriately. In fact, given the time taken to update them, many of the 3D printers at these bases were found to be running old software, meaning that they could've been at risk of tampering by subversive forces.

"The compromise of additive manufacturing (AM) design data could allow an adversary to re-create and use DoD technology to the adversary's advantage on the battlefield," explained the DoD Inspector General in their report. "In addition, if malicious actors change the AM design data, the changes could affect the end strength and utility of the 3D printed products."

The DoD's divisive policy

The Inspector General's findings follow the launch of the DoD's first official 3D printing policy, as well as its wider additive manufacturing strategy, in which it has committed to further adopting the technology. In particular, the DoD's policy highlights 3D printing's potential for reinforcing supply chains, "increasing logistic resiliency and improving self-sustainment" across the U.S. Military.

The DoD guidelines also underline the importance of private sector participation, and suggest that working with small firms could "advance its weapon systems capabilities," while adding that proper



training, engagement, and operational alignment will be needed to ensure the technology can be rolled-out smoothly.

With this in mind, the DoD document includes guidance on who's responsible for policing the technology's deployment, with the Under Secretary of Defense for Research and Engineering named as being accountable for monitoring 3D printing policy, in addition to "developing and maintaining AM cybersecurity test and evaluation policy and guidance."

Elsewhere, the guidance also makes reference to the need for "mission-based cyber risk assessments" to prevent security breaches, but critically there's no mention of curbing 3D printing's roll-out in the process. By contrast, the Defense Logistics Agency's online file sharing platform, the "Joint AM Model Exchange," seems to epitomize the very approach the Inspector General has warned against.

In support of the 'JAMMEX' 3D model catalog, America Makes' Veranese added that it prevents each DoD directorate from having to "reinvent the wheel" when sharing models by creating a secure part database, while its sophisticated firewall only grants access to CAC users based on strict profile requirements.

Moving forwards, despite ongoing claims by its Inspector General that the "DoD doesn't consistently secure or manage its AM systems," the DoD is reportedly aiming to advance rather than amend its new policy, with a Joint AM Working Group led by its own Tracy Frost set to oversee this from the Pentagon.

Military 3D printing in-action

The Inspector General's warnings come at a time when the DoD seems more intent than ever to harness 3D printing's insourcing potential. Earlier this year, binder jet 3D printer OEM ExOne was contracted by the Defense Logistics Agency to build a 'mobile 3D printing factory,' which can be rapidly deployed by soldiers to create spare parts in the field.

The U.S. Navy has also turned to AM in order to better secure its supply chains, by installing Xerox's ElemX Liquid Metal 3D printer at its **Naval Postgraduate School (NPS)**. Through the recently-established research collaboration, engineers from both parties aim to identify a new means of optimizing the way in which the military supplies deployed forces.

In the past, the researchers from Wichita State University have even worked with the U.S. Army to create an entire digital twin of a Black Hawk helicopter. By stripping down, scanning, and cataloging the aircraft's parts, the project's engineers sought to assess 3D printing's potential for reinforcing military supply chains and sourcing discontinued parts.

[Experts Explore Information Defense, Strategy During NPS Symposium - Naval Postgraduate School](#)

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Xerox's first 3D printer lands at a California Navy college

(The Fabricator 2 Aug 21) ... Holly B. Martin

Xerox announced in 2019 that it was moving into the additive manufacturing space. The first AM product from the global corporation known for its inkjet printer and document management systems is the ElemX liquid metal 3D printer.

The printer, initially developed by startup Vader Systems, builds parts from standard aluminum wire. Xerox acquired Vader in 2019, then spent the next year refining and hardening the technology.

"Since we acquired Vader Systems, Xerox has improved and refined the process and increased the build rate, cycle time, feature resolution, and surface quality of prints significantly, and we've added two new aluminum materials to our wheelhouse," said Matthew Sozio, a member of Xerox's AM team tasked with business development and strategy. "We've really extended the palette of this technology."

The first commercial ElemX was installed in December 2020 at the **Naval Postgraduate School**, Monterey, Calif.



Jetting Liquid Metal

According to Sozio, ElemX technology is similar to that of a polymer-filament 3D printer. “The concept is simple. You take a wire, melt it, and then jet it—drop by drop and layer by layer—onto a heated build plate.

“At Xerox, our core knowledge stems from inkjet printing, so we know how to deposit a lot of jetted material at scale, very precisely, and essentially that’s what we’re doing with this liquid metal technology. The real challenge is how to control each of those individual drops and how they coalesce,” Sozio said.

The ElemX printhead relies on magnetohydrodynamics, the science of electrically charging liquids such as molten aluminum and using a magnetic force to move them. After the wire melts, electromagnetic pulses around the outside of the aluminum melt pool “squeeze” the pulses back and forth and individual drops of molten metal exit the nozzle at the rate of hundreds of drops per second.

“By changing the materials used for printhead nozzles and pumps, we’ve extended jetting stability to last well over eight hours a shift, and we also integrated safety and environmental controls, which Xerox knows well from our 2D business,” Sozio said.

Using ElemX Internally

In a real-life demonstration of ElemX’s applicability in a manufacturing setting, Xerox used the printer to build replacement parts after a key supplier went out of business. The machine 3D-printed aluminum 4008 replacement brackets for the company’s line of iGen 5 digital printing presses.

The company felt it had two choices: Estimate the number of brackets needed for the rest of the iGen’s life and purchase those up front, or look for and qualify a new supplier. The former would mean a significant cash outlay and long-term storage of parts, and the latter would require moving the tool and requalifying the part.

“Neither of these options was ideal, so we said to the iGen team, ‘What if there were a third option?’ And that’s how we got involved with using the ElemX to 3D print the bracket,” said Tali Rosman, vice president and general manager of 3D printing at Xerox.

She added that Xerox has 500,000 unique parts in its repository, and with the ElemX and “our liquid metal roadmap, my goal is to be able to cater to more and more of these parts. It’s always a dual question of whether I can print it, technically, and should I print it from an economic perspective. And like everything else in 3D printing, it depends on the use case and the material properties that you need.”

Naval Service

Additive manufacturing has the potential to transform how the military supplies its forward-deployed forces. Driven by this belief, the **Naval Postgraduate School**(NPS) and Xerox agreed to collaborate on advancing additive research, specifically 3D printing.

As part of a Cooperative Research and Development Agreement (CRADA), NPS took delivery of the first commercial ElemX. The school’s faculty and students have been using a Xerox ElemX liquid metal printer to conduct thesis research and seek new ways to extend the Navy’s and Marine Corps’ capabilities.

“With liquid metal printers like the ElemX, the Navy will be able to print parts onboard ship, so if you are in the middle of the ocean and you don’t have a spare part, you can make it relatively quickly,” said Dr. Amela Sadagic, research associate professor and co-director of the Center for Additive Manufacturing at NPS. “But we also are very much interested in the ability of sailors and marines to design and create new parts and tools that never existed.”

Since the printer arrived, the university has graduated two students who based their theses on research conducted with assistance from the ElemX. Both theses looked at printing hollow metal parts.

During the months since it was installed, Xerox has continued to update the printer on campus as new capabilities were developed. At the same time, as part of the CRADA, the students and professors provided invaluable feedback to Xerox.

“After observing student and faculty operators in action, we are reporting back to Xerox, highlighting areas where improvement in the user experience is needed,” said Sadagic.



“We are pushing the limits of this printer every day and keeping Xerox on their toes because our students are asking questions like, ‘What if? Why not? Could we do a certain type of print?’” said Dr. Garth Hobson, professor and chair of the Department of Mechanical and Aerospace Engineering at NPS.

He also cited some of the printer’s advantages, including a shorter printing time and less time needed to postprocess parts. “It takes literally minutes to have a part in your hand, versus other printers where it takes hours, or sometimes days, to get a part off the build plate,” Hobson said.

Printing Onboard Ship

Safety is a critical feature when 3D-printing objects aboard a confined ship at sea. The ElemX doesn’t use metal powders or lasers, which not only simplifies operation but reduces the danger of operating it.

As a continuation of their collaboration, Xerox and NPS are looking at the possibility of installing an ElemX printer onboard a surface ship. “We always intended to put this machine through a simulated sea state environment, but now we hope to leapfrog that requirement,” said Hobson. “We have, for the very first time, a liquid metal printer that’s going to operate under seagoing conditions, including motor vibrations; rolling waves; and a wide range of temperature, humidity, and air pressure.

“The data from those prints are going to be absolutely invaluable when we compare them with data from similar parts printed here in our lab,” said Hobson.

“For the last several years, we’ve been sending ships to sea with polymer 3D printers, but an aluminum metal printer will take it up a notch,” said U.S. Navy Capt. Dan Sunvold, surface warfare chair at NPS.

“By getting a liquid metal printer into the hands of the innovative sailors at sea, working on the same things that the faculty and students here at NPS are working on, they can collaborate and share in near real time the lessons learned,” said Sunvold. “I think that’s a huge win.”

On-Demand Parts

3D printing on-demand parts close to the point of consumption lowers inventory and warehousing and is a great vision. But to do that you need a technology that’s easy to implement, easy to use, and scalable.

Rosman said this is where ElemX technology “hits the mark,” because users don’t need a clean room, facility requirements are minimal, and the materials used aren’t hazardous. “It’s not plug and play, but it’s as close as you’re going to get with production grade for metal,” she said.

[Xerox’s first 3D printer lands at a California Navy college \(thefabricator.com\)](http://thefabricator.com)

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EDUCATION:

NPS Launches New Certificate Program in Implementing Technological Change

(Navy.mil 30 July 21) ... Matthew Schehl

(NPS.edu 30 July 21) ... Matthew Schehl

The Naval Postgraduate School (NPS) just took a big step forward in cultivating leaders’ ability to bring emerging technologies to the Fleet.

The university launched a new certificate program called “Implementing Technological Change” this academic quarter to hone essential skillsets for technology professionals to spearhead policy development and drive organizational change. With an emphasis on empowering leaders, the certification seeks to synchronize intellectual, communication and policy skills with complex technological change.

“Developing, educating and managing talent for the emerging technology and cyber workforce are foundational themes in the Secretary of the Navy’s [strategic] documents and planning, but the impact of that investment depends on technology professionals also having the skillsets to communicate, strategize and lead from those domains,” noted Dr. Britta Hale, NPS computer science assistant professor and



architect of the new program. “NPS is stepping ahead of this challenge, empowering technological leaders and not just technologists.”

In an era defined by the rapid technological advances and emerging capabilities of our peer adversaries, an aggressive technological and cyberspace response is paramount. In this, the capacity to bring not only “beans and bullets” but intellectual capital to bear will be the deciding factor in maintaining the strategic advantage of the United States.

NPS’ Implementing Technological Change certificate furthers this by inculcating students’ ability to advocate their highly-specialized knowledge to a wide audience, both up and down decision-making ladders.

“NPS has a stellar track record for designing, analyzing and customizing innovative technological solutions for the DoD in all domains, and in the current era that extends to topics such as cyber, artificial intelligence and space systems,” said Hale. “However, the value of developing know-how is neutralized if there is no transition for effect. Impact requires not only knowledge but effective communication and domain-customized leadership.”

To help achieve this, the new certificate program requires two core courses: Communication for Managers (GB3012) and a new course – Advocating Emerging Technologies (CS4926). This new course offering allows for a deeper dive into effectively communicating subject matter expertise in a way that is immediately accessible to a non-technical audience.

Additionally, two elective courses are required from Cyber Policy and Strategy (CY4410), Innovation Leadership (CS4925), Militaries and Technological Change (DA4101) as well as either Managing Planned Change in Complex Organizations (MN4125) or Management of Change (GB4015).

Taken together, the certificate program is truly multi-disciplinary in nature and intentionally designed to support students of any technological discipline. The need for this stemmed from witnessing a student struggle to explain his work to a professor from outside his discipline, Hale explained.

“The student gave a very nice and authoritative presentation, but it was ineffective: the professor clearly had no idea why he, or the DON, should care about it,” she said. “Meanwhile, as someone familiar with the quality and consequences of the student’s research, I would have advocated it to the highest levels for mandated reading; it was that important. It had the potential to have a critical impact on the cybersecurity posture of the DoD.”

Hale noted the fact that the presentation didn’t have the intended results was based not on the quality or potential impact of the science, but how it was conveyed.

She began to observe students – and warfare center professionals – with this potential problem in mind. Time and again she watched them dedicate all their effort to advancing technology, but only to face pushback on technological change, and in some cases, even disregard.

From this, Hale developed the Advocating Technological Change course and later combined efforts with strategy and leadership to formalize the Implementing Technological Change certificate. In all, the process took nearly a year to ensure that the right topics and coverage, as well as study flexibility for students could be achieved.

“We provide the Navy not just with talent, but actionable talent,” said Hale.

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RESEARCH:

Experts Explore Information Defense, Strategy During NPS Symposium

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Gabrielle Lim of the Harvard Kennedy School, left, joins NPS' Defense Analysis Associate Professor Camber Warren, center, and Joint Special Operations University faculty member at U.S. Southern Command Dr. Joseph Long, during a symposium panel session on Free Speech versus Disinformation in NPS' Glasgow Hall, June 22-24, 2021.

In today's environment of 'alternative facts' and false narratives propagated over social media, along with masterful campaigns of disinformation shaped by both China and Russia, effective information and political warfare strategies are as critical as ever. This is the domain of the DOD's Information Strategy Research Center (ISRC) on the Naval Postgraduate School (NPS) campus, which brought together a community of experts for the Symposium on Information Strategy and Political Warfare (SISPoW), June 22-24, to examine China and Russia's infiltration of mass media and how it has affected democracies.

NPS Associate Professor of Defense Analysis and symposium panelist Dr. Camber Warren led off the discussion, describing how subversive and malign messaging emanating from China or Russia has leveraged existing social divisions to trigger violent responses by segments of Americans that find themselves increasingly disenfranchised.

"These segregated echo chambers pose a national security problem because it creates vulnerabilities and fosters violent divisions among the populace," said Warren. As new communication technologies are reshaping the information environment to facilitate targeting of narrower audiences, Warren noted, incentives arise for many actors to engage in messaging "on social media platforms like Twitter, [and] that feeds divisions."

It's no secret these attacks emanate from cyber criminals shielded within the borders of nation-states, many supported by those peer adversary governments, according to FBI investigations on cyber attacks and intrusions. The SISPoW previously tackled cyber and information strategies and tactics in the post-Cold War environment. Now, this year's session is focused on strategies within the context of Great Power Competition (GPC) for Geographic and Strategic Reach.

Symposium coordinator, NPS Defense Analysis department Assistant Professor Ryan Maness, describes these nefarious cyber practices by both large and small nation-states as being guided just beneath the threshold of what is considered the international law of armed conflict.

"The symposium panelists discussed how rapid technological change has forever altered the information space, where instant access to information via the Internet has made the world's liberal democracies, including the United States, very vulnerable," said Maness.

"As we shift our grand strategy to Great Power Competition, we know that our authoritarian adversaries are taking advantage of prolific instant access in free societies and have been attacking us in the cognitive space.

"These cyber intrusions also imply that competition outside of the warfighting domains is just as salient, as China's tech sector aggressively spreads its influence through their Belt and Road Initiative, and Russia continues to utilize technology to sow discord and chaos in democratic societies," Maness continued.

This year's symposium covered crucial topics in the cyber domain and the information environment with discourse on 'free speech versus disinformation' and 'how public and private sectors can better work together' for national interests in thwarting attacks.

International cyber information experts Marc Lanteigne of the University of Tromso and Dr. Whitney Lackenbauer of the North American and Arctic Defence and Security Network, agree that China is attempting to gain a foothold in the Arctic by several means.

"China wants to legitimize its future in the Arctic by creating businesses around it and as part of a long-term tactical strategy in the region, like in so many other parts of the world, and will continue to shape their narrative," said Lanteigne.



Russia's narrative is to create the idea that U.S. and NATO are threatening Russian sovereignty. Both China and Russia have attempted to distract its people regarding human rights issues, Lackenbauer noted, pointing to eight elements of strategic distraction.

"Russia is about disruption – China's ambition is to build stability and to be perceived as providing a 'win-win' situation to gain access with help from Arctic states. China does not share a border with Arctic territory but wants to put on a face of benevolence to push back for an Arctic presence. China is also excluded from the region's ocean governance policies," added Lackenbauer.

NPS Distinguished Professor of Defense Analysis Dr. John Arquilla and Wittenberg University Professor Emeritus of Political Science Dr. Bin Yu wrapped up the symposium with a discussion on the future of U.S., Russia, China relations and what can be done.

Yu's recent article, "Empire Strikes Back at Moscow and Beijing," says that the changing of the guard at the White House did not reset ties with Washington. Instead, the Biden administration has turned up the heat by re-joining with its alliances with a strong message of 'America is back.'

"China sees Putin as a jigsaw puzzle because he has distanced himself from China. Both China and Moscow have created a sense of danger and threat from each other. These are polarized misrepresentations," said Yu.

For example, during the 2013-2014 Ukraine crisis, Beijing positioned itself neutral between Moscow and Kiev. The Ukraine has since become a major hub for China's BRI in Europe, and China has displaced Russia as Ukraine's largest trading partner, he added.

As the symposium concluded, Maness re-emphasized how Great Power Competition will largely be conducted with operations below the threshold of armed conflict. In other words, operations in the information environment, primarily via cyber means, will continue to be a highly-contested space.

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(Navy.mil 30 July 21) ... Mass Communication Specialist 2nd Class James Norket

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NPS Distinguished Professor of Defense Analysis Dr. John Arquilla just released his latest book, "Bitskrieg: The New Challenge of Cyber Warfare." The work addresses the true nature of the emerging warfighting front of cyber operations, and what the United States can do to defend itself in cyber domain.

The German War Machine of World War II utilized a military tactic, known as Blitzkrieg, to create psychological shock and disorganization of enemy forces through surprise, speed and superiority in firepower. The German concept, which translates to "lightning war," has been around – though under the earlier name Schwerpunktprinzip – since the Prussian military in the early 19th century.

In today's day and age, Dr. John Arquilla, Distinguished Professor of Defense Analysis at the Naval Postgraduate School, believes Blitzkrieg is alive and well, but has evolved into a different form.

In his latest book, "Bitskrieg: The New Challenge of Cyberwarfare," Arquilla talks about how the art of warfare has changed over the past decade. He believes that the next generation of combat will be won with bits and bytes guiding the bullets and bombs.

"New technologies are changing how we protect our citizens and wage our wars," said Arquilla. "Among militaries, everything taken for granted about the ability to maneuver and fight is now undermined by vulnerability to 'weapons of mass disruption:' cutting-edge computer worms, viruses, and invasive robot networks."



Arquilla, a world-renowned expert in cybersecurity, has spent the last 30 years researching all things cyber warfare. Nearly three decades ago, he wrote an article dubbed “Cyber War is Coming,” and now, he says it is upon us.

“We're dealing with it every single day in terms of ransomware attacks, the theft of intellectual property, infrastructure vulnerability, as well as increasing impact on the potential for military effectiveness,” he continued.

The book covers a wide array of topics, from the potential weaknesses in cybersecurity to how we, as a nation, can improve our defenses against any cyberattacks.

“I spent quite a bit of time and research to get to the subjects that the book addresses, which include not only the military dimensions of cyber war, but also these questions of what I call strategic crime - ransomware, and intellectual property theft - but also the use of cyberspace or political warfare, as in trying to disrupt elections not just in the United States, but in any liberal and democratic societies.

“In fact, I think of cyber war as a kind of a ‘weapon of mass disruption’. We spent many decades worrying about the mass destruction of nuclear weapons. Now we have to worry about mass disruption with cyber weaponry,” he continued.

Arquilla believes his time at NPS has been invaluable, and thinks everyone, not just the Department of Defense, benefits from the work being done at the university every day.

“We have just tremendous opportunities for those of us on faculty here at NPS to be in a university research setting in which virtually every professor is thinking about the questions that bear upon national security,” he said. “I can talk to an information scientist or computer scientist or an electrical and computer engineering faculty member about any question I might have.”

NPS has “proved that it is on the leading edge in virtually every aspect of cyber affairs,” he added.

[NPS Cybersecurity Expert Explores ‘Weapons of Mass Disruption’ in New Book > United States Navy > News-Stories](#)

[NPS Cybersecurity Expert Explores ‘Weapons of Mass Disruption’ in New Book - Naval Postgraduate School](#)

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Director of Center Operations Scott Mahone named Veteran Champion of the Year

(The Den Mercer University 28 July 21) ... Kyle Sears

Mercer University Director of Center Operations and retired U.S. Army Lt. Col. Scott Mahone was recently named one of 19 inaugural Veteran Champions of the Year in Higher Education by G.I. Jobs® magazine.

G.I. Jobs® created the honor to recognize those who advocate for the advancement of America’s veterans and military students in higher education by seeking to enable their success at colleges, universities and vocational schools. The honorees’ efforts improve the recruitment, enrollment, matriculation, retention, graduation and job placement of veterans while seeking to bridge the cultural gap between veterans and civilian students.

“There may not exist anywhere a more qualified, more deserving individual for this award than Scott Mahone,” said Dr. Penny L. Elkins, senior vice president for enrollment management at Mercer. “Following more than 26 years of global military service in the United States Army, Lt. Col. Mahone has made it his mission to serve his fellow Americans in a different way – with more than 16 years of direct service to our students here at Mercer.”

Mahone oversees operations at the University’s regional academic centers in Douglas County and Henry County and at evening student support centers on the Atlanta and Macon campuses. These locations primarily serve busy and working adult students, many of whom are military-connected individuals, including active-duty military, veterans, or spouses and dependents.

Mahone serves as the official primary point of contact for all military and veteran recruitment, assisting individuals in the University enrollment process and accessing their military educational



benefits. He is responsible for developing an annual strategic plan in support of recruitment, enrollment, retention and graduation of military-connected students. Under his leadership, the University experienced record year-over-year enrollment of military-connected students for the 2020-2021 academic year.

Mahone also leads military-connected service initiatives at the University, including partnering with the U.S. Marine Corps in support of Operation Christmas: Toys for Tots and coordinating participation in the Georgia Veterans Day Association parade, in which Mercer's ROTC Bear Battalion won "Best Marching Unit" in 2020. Under his leadership, Mercer was named Georgia's first Purple Heart University by the Military Order of the Purple Heart, received the "Best for Vets" designation from both U.S. News & World Report and Military Times, and earned recognition as a Top 10 Gold Military Friendly School by Military Friendly®.

"G.I. Jobs shines a spotlight on the higher education programs that best connect the military community to civilian employment opportunities. But without people like the 19 champions honored this year, the execution of these programs and services at individual schools never happens. I am so grateful for these 19 leaders for their role in helping America's veterans thrive in higher education," said Chris Hale, CEO of VIQTORY®, the veteran-owned business that owns and operates G.I. Jobs.

Prior to his military retirement in 2004, Mahone served 26 years in a variety of high-profile, high-impact command and staff assignments in 15 countries during times of peace and war.

He was personally selected by the U.S. Secretary of Defense as a professor and lecturer of defense resources management at the Defense **Naval Postgraduate School** in Monterey, California, and handpicked by former Secretary of State Colin Powell as an executive officer in the Resources Management Directorate, U.S. Forces Command, at Fort McPherson, Georgia.

Mahone served as an award-winning lecturer and instructor of defense resources management, planning, programming and budgeting at the Defense Resources Management Institute, School of International Graduate Studies, **Naval Postgraduate School** in Monterey, California; U.S. Central Command lead instructor and program coordinator for international financial management seminars in East Africa, Southwest Asia and the Middle East; guest lecturer at the Western Hemispheric Institute of Security Cooperation at Fort Benning, Georgia; and subject matter expert in the Department of Defense International Military Education and Training Programs.

His awards include the Department of Defense Legion of Merit Medal, Defense Meritorious Service Medal (two times), U.S. Army's Military Outstanding Volunteer Service Medal, Army Commendation Medal (two times), Army Achievement Medal, Joint Meritorious Unit Medal, National Defense Service Medal (two times), Humanitarian Service Medal, Global War on Terrorism Service Medal, Army Service Ribbon, Army Overseas Service Ribbon (two times), and German Armed Forces Badges of Marksmanship (Schutzenschnur) Gold and Silver Medals.

Mahone earned a Bachelor of Business Administration in finance and investment analysis from the University of Georgia and Master of Science in resources management from the Florida Institute of Technology and NASA.

Profiles of the 2021 Veteran Champions of the Year in Higher Education honorees are published in the August issue of G.I. Jobs magazine, distributed free – digitally and in print – to transitioning service members, veterans and their families worldwide.

[Director of Center Operations Scott Mahone named Veteran Champion of the Year \(mercer.edu\)](https://www.mercer.edu/news/director-of-center-operations-scott-mahone-named-veteran-champion-of-the-year)

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Sókn Engineering Introduces Mubashir Kazi as an Advisory Board Member

(Sokn Engineering 29 July 21)

Sókn Engineering today announced that Mubashir "Bash" Kazi has become the latest addition to its Advisory Board.

"We are pleased to formally welcome Bash to our advisory board," said CEO & President, Cassie Monaco. "With Bash's vast and deep knowledge of the technology sector, finance, and bringing programs



and products to market across multiple industries, Sókn will greatly benefit from his expertise and strong global leadership perspective."

Mr. Kazi is the founder & CEO of KIG, a security and defense sector investment and management firm that has executed and delivered on programs worth several billion dollars with US government agencies since 2002. He has over 30 years of information technology, security, project management and engineering experience at Fortune 500 companies including 3M and Exxon. Mr. Kazi holds engineering and technology management degrees from McGill University, Canada and Stanford University. Over the past 4 years, Bash has invested, developed and deployed in unique hyper realistic simulation platforms and cyber ranges at internationally recognized institutions such as the University of Texas, San Antonio and the U.S. **Naval Postgraduate School**, both of which are Centers of Academic Excellence for cyber security, to provide a unique cyber security training experience and curriculum that fills the urgent global resource and talent shortage in IT and OT security. In his spare time, Mr. Kazi is an avid polo and squash player.

"We are honored to have Bash as part of our Advisory Board and deeply appreciate his commitment to further the vision of Sókn Engineering. We look forward to working with him to deepen the mission and expand the impact of women in Science Technology, Engineering and Mathematics, as we continue to foster and help guide the next generation of women inventors and executives in the S.T.E.M. fields," said Cassie Monaco

About Sókn Engineering

Sókn Engineering is a woman-owned S.T.E.M. Company that seeks out and develops technology that have commercial viability with a particular focus on promoting women in the fields of Science, Technology, Engineering , and Mathematics. Sókn's first product in its portfolio, the HyperFund Engine™, are highly complex proprietary predictive mathematical algorithms for the FinTech industry. Sókn's HyperFund Engine™ offers the industry an end-to-end solution applied to commercial applications, the individual consumer, or any organization looking to predict price movements accurately and consistently in the commodities market.

[Sókn Engineering Introduces Mubashir Kazi as an Advisory Board Member - EIN Presswire \(einnews.com\)](#)

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Erdogan's "secret" weapon: this is how he can unleash the navy

(Taylor Daily Press 31 July 21) ... Alfred Airaldii

The Turkey It has never denied the option of having naval mechanisms capable of taking its aircraft to the operational theaters involved. The crutch is a tool that makes it easier to challenge the rival powers of the Eastern Mediterranean and the Middle East, but above all Erdogan is a tool of power and a tool that some call the "naval case". An obstacle is to show power. For all these reasons – except the fact that Turkey will be one of the few NATO powers to have such a unit at the disposal of its navy – possession of an aircraft carrier is inevitably a fundamental step in Ankara's entire naval program.

Erdogan never doubted the importance of having an aircraft carrier. It was also precisely from the Ankara defense that the Turkish leader confirmed his desire to equip his fleet with such ships, which initiated two plans to build amphibious attack units to accommodate aircraft. The idea of Turkish Navy Accidents and Priorities Changed – There were two sister ships Anatolia e Thrace, Both Landing helicopter dock Derived from Spanish Juan Carlos I. Given the financial and strategic basis of Ankara, of course, this is a very ambitious choice, but now it faces a problem of capital importance.

In fact the idea of building these two ships started from a very clear assumption, i.e. these ships were launched later F-35. However, this assumption began with another theory: relations between Ankara and Washington were good – albeit with obvious differences – without affecting the country's participation in the new militant program. On the other hand, things have taken a very different turn with regard to the initial plans of the Turks and the Americans. Russia, in retaliation for Russia's purchase of the S-400 and



to show dissatisfaction with various Turkish decisions, blocked Ankara from providing the aircraft to reconsider its plans. Anatolia e Thrace.

Outside of NATO – that is, the idea of getting militants from China or Russia or even the idea of launching a national program has not reached Turkey. Especially if the goal is to fully activate the first aircraft carrier in the next few years. Precisely for this reason, at least in the immediate future, everything suggests it Anatolia Equipped with attack helicopters and especially i Armed drones made in Turkey. One of the most intimidating weapons in Erdogan’s arsenal, it has already demonstrated its capabilities not only in Libya, but also in Nagorno-Karabakh and earlier in Syria.

Problems in the construction and commissioning of aircraft carriers Anatolia They give us a clear overall picture of the risks inherent in this Turkish naval restructuring process. After all, the risks are related to political power, the ability to perceive their ideals without seeing them in difficult international isolation. The aircraft carrier was the best film to complete a restoration mission that would end with the Republican century. The Turkish navy, which sank after the fall of the Ottoman Empire, reappeared after a slow process of restructuring to build an aircraft carrier similar to the world’s largest fleet.

But this The first aircraft carrier It was born at a different time as the culmination of the harmony of at least two factors: financial stability and the stability of relations with the United States. The choice to change its geopolitical definitions – shifting the center of gravity of foreign policy towards clear strategic autonomy and strengthening relations with China and Russia – has changed the West’s attitude towards Turkey. It is clear that the NATO domestic navy cannot ignore good relations with its allies. Or, if it does, it accepts opportunities but also carries the risks of such a strategy.

A precedent for this difficult situation in Ankara is that the progressive deviation from the West has so far led to three negative consequences for the naval sector: it has made it very difficult to obtain agreements of a military nature; The United States began secretly preventing the transfer of arms to Turkey; Finally, it is not possible for Angora to have a skilled aircraft carrier within NATO. This requires a clear reflection on the need to maintain even better relations with Turkey United States And Western allies. Ryan Gingeras, a professor at the **Naval Postgraduate School** and one of Turkey’s leading experts, explained. Another question that remains unanswered is whether the Turkish navy can actually operate independently from its allies. As most of its fleet with new bases and technologies is being tested to a limited extent, it remains to be seen whether Turkish ships will be able to withstand long deployments or combat operations. For this reason, experts still value the Turkish Navy as a coast guard.

This example helps people to understand the complex strategy implemented by Turkey, which is a high risk game. Erdogan wanted to lay the groundwork for Ankara’s progressive isolation in the Mediterranean environment under Euro – US leadership. But at the same time the Turkish leader made it clear that he was not the architect of this new curriculum, and revealed the (violent) flashes of communication with the United States.

However, the outcome is very uncertain, so far, under everyone’s eyes. Turkey wants to be an autonomous power and can do so by showing a politics after all muscles. But the progressive militarization of foreign policy and a strong impetus Mediterranean From the economic and strategic point of view there is a risk that they will hit the wall which will have very serious consequences. A dangerous bet, for now, has yielded favorable results in a very short time, but this may be the real limit to Turkey’s eruption as a force that will actually affect the entire Levant region in the future.

[Erdogan's "secret" weapon: this is how he can unleash the navy \(taylordailypress.net\)](http://taylordailypress.net)

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A Winning Formula to Biden’s War on Oil: Green Extraction

(RedState 29 July 21) ... Hollie McKay

Poised in the remote, arid plains of Utah, steam billows into the clear blue sky, and an American flag flies high above the complex operation of extracting, and churning clean sand, and oil.



Only this is no ordinary mining operation. Instead, it's one of the groundbreaking Petroteq "green" extraction enterprises, which some analysts are lauding as a potential ceasefire solution amid the war between traditional right-titled oil advocates and the Biden administration's left-leaning environmental policies.

According to President of Petroteq Energy, Jerry Bailey, it just may strike a necessary and realistic balance between staunch petroleum proponents and the climate-concerned.

"Oil isn't going anywhere. But all these niche markets – solar, wind, hydro-electric geothermal. All those things can also contribute to a better world. But they aren't going to replace oil," he said. "We have enough oil in the ground – fifty years or so in the United States. We have new technology, but even so, the current administration is doing everything they can to stop any production of an oil pipeline."

Hydraulic fracturing – better known as fracking – has paved the way for a gas boom in the U.S., enabling companies to reach wells once deemed impossible. Nonetheless, it typically requires a great deal of wastewater, discharges methane gas, and runs the risk of contaminating water supplies.

Through proprietary technology, Petroteq is "able to produce oil without water, waste tailings ponds and emissions," Bailey noted. The company uses a unique oil sands extraction method known as Clean Oil Recovery Technology (CORT) which refines bitumen into crude oil. According to Petroteq's assessments, the patented mechanism can also extract up to ninety-nine percent of hydrocarbons, which "allows maximum bitumen extraction while leaving zero waste."

As it stands, the system produces around 500 barrels a day, with the productivity goal set to reach 5000 barrels by 2022. Already operating in the U.S, Bailey said they are filing for CORT patents in more than thirty other countries identified as having prominent oil sands basins, thus setting the groundwork for a more environmentally friendly industry overhaul.

In addition to Petroteq, several other companies are investing heavily in greener fracking. For one, Shell has poured billions since 2016 into its "New Energies" division focused on decarbonizing. Other companies in recent years have turned to the CleanWave system, which utilizes positively charged ions and bubbles to expel pollutants or to membrane distillation. This desalination method facilitates drilling operations to repurpose the water without initially diluting it with fresh water.

Yet even with the technology breakthroughs, it is a steep hill to climb given the administration's oil-adverse stance.

"The current administration is causing a definite negative effect on the oil and gas industry. They are trying to stop all the practices necessary to contribute to the production," Bailey lamented.

President Biden's categorical policy objective is to dwindle U.S. oil and gas manufacturing, which includes limiting drilling rights and halting leases on federal land, thus reducing the world's inventory of fossil fuels under the guise of tackling climate change.

But the cracks are already evident. In recent weeks, Biden's team has implored the Organization of Petroleum Countries (OPEC) oil consortium to increase activity at the pump so that the oil prices don't continue to rise due to his policies. But, so far, OPEC and its partners have failed to reach such an agreement, sending the oil price soaring to a six-year high last Tuesday.

And with the demand not able to meet the supply as COVID-19 restrictions ease and travel resumes, it's the average – and most impoverished – Americans who are and will continue to be hit the hardest.

"It starts having all kinds of ripple effects; filling a gas tank for sixty dollars is big money for families. It impacts their transportation, their food, their housing," Bailey continued. "It's those in the upper-income brackets who don't see the impact of this as bad because it is not as big a portion of their income."

The White House has endeavored to pause new leases for extraction on federal land and append leases across pockets of Alaska, which Bailey views as an especially fatal mistake for the U.S. given the state's potential for exploration.

However, soaring prices at the pump also threaten to blunt a significant sector of the Democrat voting base. Skyrocketing energy prices – including natural gas and propane prices – ricochet into increasing the cost of consumer goods across the board.



Oil industry advocates also caution that Biden’s protocols harm already financially hamstrung Americans and pose a threat to U.S. energy dependence and national security – rendering the homeland more reliant on volatile regions like the Middle East to keep the country fueled.

According to Ken Mahoney, CEO of the Wall Street-based firm Mahoney Asset Management, Biden’s policies render the U.S. more dependent on foreign oil and the Middle East.

“Renewable energy is still secondary. It is not tried and tested, so the risk of having distribution failures is high; just take a look at what happened in Texas as their grid went down for several days without anything being done,” he stressed. “There is a balance, but you can’t go head over heels into renewable energy. Millions of American jobs rely on fossil fuels, and as a result, so does our economy.”

And **Naval Post Graduate School’s Dr. Brenda Shaffer**, senior advisor for energy at the Foundation for Defense of Democracies (FDD), noted that there are also significant geopolitical implications of moving from an energy system based on oil and natural gas to one based on electricity from other sources.

“It means a move from an energy system where the USA is the largest producer to one where China is dominant through control of the relevant minerals. Greater use of electricity means greater cyber threats. The smarter the grids and the meters, the easier it is for malign actors to conduct cyberattacks,” Shaffer explained. “The restriction of oil and gas production in the West creates a commercial opportunity in the Middle East and other energy-producing regions.”

But whether or not Biden will embrace a happy medium is yet to be seen. Environmental defenders have already cautioned that moderate changes are not sufficient, with more than fifty groups demanding in a letter to the White House last month that the Commander-in-Chief “not only end the federal leasing programs but to wind down existing federal oil and gas production.”

The predicament, critics say, is that we are far from being a planet without fossil fuels and not likely to become one anytime soon.

So are the two sides going to remain at ardent ends of the spectrum, or can groups come together to configure a better balance?

“With this administration, the balance of Petroteq seems to be the best way we can move forward as the cost to the environment compared with the successful production of energy is an efficient and productive balance,” Mahoney added.

[A Winning Formula to Biden’s War on Oil: Green Extraction – RedState](#)

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Renewable Isn’t Always Green

(Real Clear Energy 2 Aug 21) ... Dr. Brenda Shaffer

The Biden Administration and the European Union have launched unprecedented and far-reaching policies to promote the use of renewable energy and low carbon emitting energy. While commonly people use the terms renewable and green interchangeably, they are in fact not similar at all. The most prevalent forms of renewable energy, such as hydropower and biomass, have high environmental impact—they may be “clean” but they are not “green.”

The drive to promote use of renewable energy and reduce carbon emissions has replaced green policies, with the public hardly noticing. As the U.S. and EU move forward and other countries around the globe adopt similar policies, it is important to evaluate the full environmental impact of various renewable and low-carbon technologies. The deployment of renewable and clean energy projects should be assessed for their entire environmental impact and subject to the same public scrutiny on these grounds as other energy projects.

Renewable energy is produced from sources that are not depleted through usage and are naturally replenishing. Today, most renewable energy is used to produce electricity. Over half of today’s renewable energy is produced by hydropower. Hydropower is indeed renewable, but it is far from green. Hydropower plants destroy the ecosystem in which they are built. Hydropower disrupts wildlife and



vegetation and destroys natural water flows. Hydropower creates eyesores and thus harms the growth of tourism. Accordingly, when the U.S. government or international organizations like the International Energy Agency promote the use of hydropower, they generally refer to it as “clean” energy, knowing that it is hard to call it green.

Renewable energy may not only fail to be green, but may be unclean. Clean energy refers to energy that does not produce significant amounts of carbon emissions. This is revealed in the recent debates in the European Union on the status of wood as a source of renewable energy. In Europe, sixty percent of its renewable energy is produced from biomass, which includes wood. Wood is indeed renewable as it is naturally replenished and can be farmed and thus not depleted, but burning wood generates air pollution and carbon emissions. Burning wood is likely to emit more carbon emissions than fossil fuels. Accordingly, there is active debate in Europe on whether wood burning should be counted as fulfilling a state’s renewable energy commitments. Some in the EU are claiming that wood should be precluded due to its significant pollution and climate impact.

The second largest source of renewable energy is solar energy. A major environmental impact of solar energy is land use. Major solar electricity production requires extensive land use and solar plants often disrupt mobility of animals in open spaces. Solar and wind take up proportionally more land than their fossil fuel cousins, and thus are challenging for use in countries with limited open space.

When assessing the environmental and climate impact of a source of renewable energy, few countries calculate the total life cycle of a renewable energy source. The majority of solar panels in use in the U.S. are produced in China through use of electricity produced by coal, then shipped—with maritime shipping being one of the most polluting industries-- to the US. In addition, a large portion of the wood pellets burnt in Europe as part of their use of renewable energy are imported from the southeast U.S. and Vietnam and shipped to Europe, causing environmental damage along the way.

The term “clean energy” is rapidly replacing the term green energy in U.S. government publications, due to the environmental impact of most of the renewable sources that Washington promotes. The U.S. Department of Energy tells us that a “clean energy revolution across the United States” is taking place due to expanded use of renewable energy. Nowhere is the term green or environment mentioned in describing the expansion of renewable energy.

Regularly agencies and courts are recognizing the conflict between renewable and green energy. A recent decision by the U.S. Federal Energy Regulatory Commission (FERC) to transfer a hydropower plant license paves the way to tear down a four-dam hydropower complex on the Klamath River that straddles Oregon and California. Despite the Klamath plant producing renewable energy, FERC recognized the high environmental impact of the mega-dam and pulled its commercial license.

Renewable energy clearly has multiple advantages. But the health of the environment should not be damaged for its use. The environmental impact of each renewable energy project should be assessed just like any fossil fuel project. Citizens and policymakers should not confuse renewable with green, and clean with green.

Prof. Brenda Shaffer is a faculty member at the U.S. **Naval Postgraduate School**. She is also a Senior Fellow at the Atlantic Council’s Global Energy Center and Senior Advisor for Energy at the Foundation for Defense of Democracies (FDD) think tank.

[Renewable Isn’t Always Green | RealClearEnergy](#)

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ALUMNI:

Colts Announce Changes To Football Operations Staff

(Colts.com 26 July 21)

Brian Decker was named the Colts' director of team development. He enters his fifth season with the team and previously served as the director of player development from 2018-19. Decker joined the Colts



as a player personnel strategist in 2017. He got his start in the NFL with the Cleveland Browns. Decker has consulted in all major professional sports on the selection and development of athletes. A military veteran who retired after 22 years of service and achieved the rank of Lieutenant Colonel in the Special Forces, his last assignment was commander of special forces assessment and selection. Decker oversaw the development and execution of the talent acquisition strategy to select future Green Berets. He graduated from Eastern Kentucky and then earned his master's degree in Defense Analysis from the **Naval Postgraduate School**.

[Colts Announce Changes To Football Operations Staff](#)

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Alumnus takes charge of Ranger battalion

(UNG.edu 26 July 21) ... Edie Rogers

Lt. Col. Kitefre Oboho, a 2002 alumnus of the University of North Georgia (UNG), has assumed command of the 3rd Battalion, 75th Ranger Regiment, Fort Benning, Georgia. The Ranger Regiment is one of the elite special operations forces of the U.S. military.

"Obviously, I didn't get here by myself. My wife gets a lot of credit, and my friends and family," Oboho said. "It's an incredible opportunity and an incredible team accomplishment. And the next step is to lead these Rangers with the dignity and character that they deserve."

Oboho said his experiences in the Corps of Cadets' "leadership laboratory," which included his introduction to Army Rangers, inspired him and still defines him today.

"The advantages of being at UNG, like the high pedigree of instructors and mentors that I had, is the foundation of who I am today," he said. "If I hadn't been at UNG, if I hadn't interacted with those people, and lived in that culture, I think I'd be hard-pressed to be where I am today."

If I hadn't been at UNG, if I hadn't interacted with those people, and lived in that culture, I think I'd be hard-pressed to be where I am today.

Dr. Keith Antonia, associate vice president for military programs at UNG, said the 75th Ranger Regiment has extremely high standards and an intensive screening and selection process. Antonia, a retired lieutenant colonel, served for 12 years in Army Ranger units, is a distinguished member of the Airborne Ranger Training Brigade, and was inducted into the Ranger Hall of Fame in 2009.

"The Ranger Regiment is the Army's premier raid force, and only the Army's most capable combat officers and sergeants lead its small units and battalions," Antonia said.

Retired Maj. Richard Neikirk, the assistant commandant of UNG's Corps of Cadets, met Oboho in 1998 at the traditional Freshman Recruit Orientation Group (FROG) Week training for new cadet recruits.

"He made a great impression on me and I knew right away that he would turn out to be one of the finest graduates produced from this program," Neikirk said. "The Army recognized his talents by selecting him for tough assignments and early promotions."

Oboho earned a bachelor's degree in criminal justice from UNG and commissioned into the infantry in 2002. He earned a master's degree in defense analysis from the **Naval Postgraduate School** in 2015.

Oboho's most recent assignment was commanding the 1st Battalion, 503rd Infantry Regiment, 173rd IBCT (Airborne) in Vicenza, Italy. From 2017-19, Oboho served as the aide de camp to then-Army Chief of Staff Gen. Mark A. Milley, who now is the Chairman of the Joint Chiefs of Staff.

Oboho also held leadership positions with the 2nd Ranger Battalion from 2012-17, including executive officer, operations officer, company commander and adjutant.

He also was selected early among his peers for promotion to colonel, which Antonia noted is a testament both to Oboho's performance throughout his career and the Army's confidence in his potential as a senior leader.

Oboho's awards and decorations include the Defense Meritorious Service Medal and the NATO Meritorious Service Medal.



Oboho and his wife, Kai Hawkins Oboho, sponsor the Knox Kitefre Oboho Military Leadership Scholarship for UNG cadets. The scholarship honors their son Knox, who died in December 2014. Kai Oboho, a 2005 UNG alumna, is a Distinguished Military Graduate and a well-decorated combat veteran. The couple have two sons, Kope and Karter.

[Alumnus leads Ranger battalion \(ung.edu\)](#)

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USM Recognizes Newest Cohort of Hydrographic Science Graduates

(USM.edu 29 July 21) ... Van Arnold

Nine students in the prestigious Hydrographic Science Program at The University of Southern Mississippi (USM) were recognized during graduation ceremonies held Wednesday, July 28 at the University's Gulf Park campus in Long Beach.

USM is the only university in the United States to offer an undergraduate program in hydrography and one of just two to offer master's and doctoral degree programs in this challenging field. Since the program's debut in 1999, USM has graduated 233 students, including 55 international students from 33 different countries.

The Hydrographic Science Program is administered through USM's School of Ocean Science and Engineering. The graduation ceremony honored all recipients of certificates that indicate the student successfully completed either a Category "A" or Category "B" program in hydrographic science. At USM, Category "A" certification customarily identifies those who earn master's degrees, while Category "B" recognizes those who earn undergraduate degrees. Some doctoral students opt for the Category "A" certificate on route to their degree without received the master's degree.

Alberto Costa Neves became the program's new coordinator earlier this month. He notes that hydrographic science graduates can expect to enter a profession that offers a wide range of opportunities.

"Hydrographic surveying is an exciting, multidisciplinary profession that is involved with every aspect of the collection, analysis and management of marine data used for charting the ocean frontier and for engineering projects," said Costa Neves. "The blue economy and the protection of our seas, rivers and lakes depends on the work of the hydrographic surveyors, or hydrographers."

- Hydrographers work in areas such as:
- Bathymetric mapping of the oceans, rivers and lakes
- Oil and gas exploration
- Navigational safety
- Natural disaster and sea level rise studies
- Habitat mapping
- Ocean environment studies
- Offshore renewable energy projects
- Defense and security operations

A native of Cacador, Brazil, Costa Neves joins the USM community with a long and distinguished career portfolio in hydrography and related sciences. His expertise includes data gathering, seismic surveying, environmental prediction, safety of navigation, strategic planning, capability development and technical standards.

For the previous nine years, he has served as Assistant Director at the International Hydrographic Organization (IHO) Secretariat in Monaco, where he provided support to inter-regional coordination and capacity building. Since leaving the Brazilian Navy Hydrographic Service in 2008, Costa Neves has provided consultation for the maritime industry and port authorities.

Costa Neves holds a master's degree in meteorology and physical oceanography from the U.S. **Naval Postgraduate School** and a master's in naval sciences from the Brazilian Naval War College.



When asked what might be among his immediate goals as the new coordinator of USM's Hydrographic Science Program, Costa Neves stated: "First and foremost to ensure that the USM program remains compliant with the International Standards for Hydrographic Surveyors and is connected to all of the other related sciences that may be explored to the fullest. We need to ensure that our graduates are the best professionals in the world."

[USM Recognizes Newest Cohort of Hydrographic Science Graduates | The University of Southern Mississippi](#)

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CSS Welcomes Stockton, Farewells Troy during Change of Command

(DVIDS 28 July 21) ... Petty Officer 2nd Class Derien Luce

Center for Service Support (CSS) held a change of command ceremony at Naval Station (NAVSTA) Newport July 28.

Capt. Robert T. Stockton relieved Capt. Milton W. Troy III as commanding officer of CSS. Troy had been the commanding officer since May 2019.

While headquartered at NAVSTA Newport, CSS is the echelon commander for the Naval School of Music, Naval Technical Training Center (NTTC), Navy Service Support Advanced Training Command (NSSATC) and Naval Supply Corps School (NSCS) with 15 combined learning sites fleet-wide. With a staff of more than 400 professional instructors and educators worldwide, CSS provides Sailors in the Naval Administration, Command Support Program Management, Logistics, Maintenance Coordination, Media, and Security Management communities the necessary professional skills, knowledge, and education to support the fleet's warfighting mission. CSS also develops and delivers General Skills Training that builds personal and professional growth and development.

During his tour, Troy guided CSS through the convening of 2,172 classes and enrolling 110,000 students in various Navy e-Learning courses, which culminated in the graduation of 129,000 fleet-ready Sailors. He also worked with key stakeholders from U.S. Fleet Forces Command, U.S. Pacific Fleet, Office of the Chief of Naval Operations, and other higher echelon staffs to spearhead major programs such as Culture of Excellence, Task Force One Navy, and Warrior Toughness. He also proactively engaged fleet and policy stakeholders to ensure Naval Education and Training Command (NETC) Task Force One Navy Final Report recommendations were actionable, sustainable, and enduring by establishing a battle rhythm and delineating implementation plans and milestones, furthering the Inclusion and Diversity mission through Training with Industry opportunities for the Retail Specialist rating and initiating a comprehensive review and update of outdated training to ensure the needs of all Sailors are met.

"Shortly after I got here I ask you to do four things: build, organize, learn, and deliver," said Troy. "I didn't imagine that you would take that clarion call and propel it to the next level. We're better than we've ever been in the history of our Navy because CSS is strategically postured to shape the culture of the Navy for years to come, and you'll continue to do that not because of the money or the tools, but because of the resources, which is each and every one of you."

Prior to being relieved of command, Troy told the attendees his appreciation for the time spent with the CSS team during his tour.

"Personally getting to know every one of you warms my heart," said Troy. "Whether you wear the uniform or not I would consider you all my dearest shipmates for life. The memories alone, I will forever hold dear to me."

Troy, a native of Mullins, S.C., will report to Naval Sea Systems Command at the Washington Navy Yard where he will serve as the chief staff officer. A 1995 graduate of the Naval Reserve Officer Training Corps Program at Morehouse College in Atlanta, U.S. Naval Academy graduate, he served as a the disbursing/sales officer and food service officer aboard USS Normandy (CG 60), the supply officer aboard USS Spruance (DD 963), the Naval Logistics Advisor to the Kuwaiti Navy at the Officer of



Military Cooperation-Kuwait and an Individual Augmentation to Joint CREW Composite Squadron One. His last operational assignment was the commanding officer of Explosive Ordnance Disposal Expeditionary Support Unit TWO.

Ashore, his tours include serving as an instructor at NSCS, as the Director of the Nuclear Resource Management and Deputy Director of the Customer Value Management Departments at the Naval Inventory Control Point, Fleet Services Officer and Lead for the Fleet Financial Improvement and Audit Readiness Team at U. S. Fleet Forces Command, Executive Assistant to the Commander, Naval Supply Systems Command and the 47th Chief of Supply Corps, Director for the Internal Review and Evaluation Division and Chief of Staff for the Office of the Deputy Assistant Secretary of the Navy (Financial Operations) and Commanding Officer of NSSATC. He also received master's degrees from the University of Georgia and the U.S. Naval War College.

Stockton reports to CSS from his previous tour as director for the Total Force Manpower/Manning and Civilian Human Resources Directorate (N1) for NETC. A former enlisted cryptologist and surface warfare officer, Stockton is currently a human resources officer and graduate of Jacksonville University and the **Naval Postgraduate School** with a Master of Science in Manpower Systems Analysis. He is also certified as a Professional in Human Resources.

He has served aboard USS Heron (MHC 52) and USS Carney (DDG 64). His shore tours include service with Afloat Training Group Mayport, staff of the Military Personnel Plans and Policy Division (N13), Office of the Chief of Naval Operations, U.S. Naval Forces Central Command Forward Iraq, executive officer of the U.S. Navy Element at U.S. Southern Command, the human resources and staff/restricted line officer detailer at Navy Personnel Command and the commanding officer of NTTC Meridian, Miss.

CSS reports to NETC, led by Rear Adm. Peter Garvin. NETC is the U.S. Navy's Force Development pillar and largest shore command. Through its "Street to Fleet" focus, NETC recruits civilians and transforms them into skilled warfighters ready to meet the current and future needs of the U.S. Navy."

[DVIDS - News - CSS Welcomes Stockton, Farewells Troy during Change of Command \(dvidshub.net\)](#)

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Lt Gen Dhiraj Seth assumes command of 21 Strike Corps

(Sify.com 31 July 21)

New Delhi, July 31 (IANS) Lieutenant General Dhiraj Seth on Saturday took charge of 21 Strike Corps, also known as Sudarshan Chakra Corps.

An alumnus of National Defence Academy in Khadakwasla, Pune, and commissioned to Armoured Corps in December 1986, Seth has commanded an armoured regiment, armoured brigade and a counter-insurgency force.

He tenanted the staff appointments as the Major of an Independent Armoured Brigade, Assistant Military Secretary at Military Secretary Branch, Brigadier General Staff of a Command Headquarter and also tenanted key appointments as Colonel and Major General at IHQ of MoD (Army).

He has done a tenure with the United Nations Angola Verification Mission III from 1995-96 as operations officer.

He was awarded 'Silver Centurion' in the young officers course and stood first on both radio instructor course and junior command course.

He had attended the prestigious Defence Services Command and Gen Staff Course at Military College, Paris, and is an alumni of the Higher Command Course at Mhow and the National Defence College in New Delhi.

He has also qualified on the International Defence Acquisition Management Course at **Naval Postgraduate School**, Monterey, California.



He has been an instructor and assistant adjutant at the National Defence Academy and a colonel instructor at the School of Armoured Warfare, Armoured Corps Centre and School, Ahmednagar.

The 21 Strike Corps is based out of Bhopal.

The army has four strike corps -- the Mathura-based I Corps, the Ambala-based II corps, the Bhopal-based 21 Corps and the partially-raised 17 Corps. The primary role of a strike corps is offensive trans-border action against an adversary.

[Lt Gen Dhiraj Seth assumes command of 21 Strike Corps \(sify.com\)](#)

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