



# NPS IN THE NEWS

## Weekly Media Report – June 14 - June 20, 2022

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### GRADUATION:

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### FACULTY:

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*(CFR 21 June 22)* ... Scott Jasper

U.S. rocket shipments to Ukraine will not trigger Russian cyberattacks against the United States. Russian is too focused on attacking Ukrainian systems and defending their own networks to mount a response to the weapons shipments... Dr. Scott Jasper is a Senior Lecturer at the **Naval Postgraduate School** in Monterey, California, and the author of Russian Cyber Operations: Coding the Boundaries of Conflict by Georgetown University Press.

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*(AA.com 15 June 22)*

The EU sanctions on Russia's oil exports, which were intended to cripple the Russian economy, have instead boosted oil prices by raising supply pressure on the market, bolstering the country's oil profits as Europe struggles to source their imports from alternative energy suppliers... Brenda Shaffer, a professor at the US **Naval Postgraduate School**, pointed to the differences between the markets of crude oil and natural gas and said the supplies that Europe rejected to import would be picked up by other consumers.



## **ALUMNI:**

### **[Return from the Grave: The Domestic Nuclear Attack Threat](#)**

*(The Strategy 15 June 22)* ... Robert T. Wagner

It's as if we all breathed a collective sigh of relief when the Soviet Union collapsed and said to ourselves, 'Well, I guess we don't need to worry about that anymore.'" ... Robert T. Wagner is a Department of Army Civilian, and holds a Master of Arts Degree in Security Studies from the **Naval Postgraduate School**. His research interests include homeland defense, civil military relations, and emergency preparedness. The views expressed are the author's alone and do not reflect those of the U.S. Army, the Department of Defense, or the U.S. Government.

### **[Veteran NASA Astronauts David Leestma, Sandra Magnus and Chris Ferguson Inducted into U. S. Astronaut Hall of Fame at Kennedy Space Center Visitor](#)**

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Veteran NASA astronauts David Leestma, Sandra Magnus and Chris Ferguson were inducted on June 11 into the prestigious U.S. Astronaut Hall of Fame – marking the 20th class of honorees to join the esteemed society... A 1971 graduate of the U. S. Naval Academy, Leestma obtained his master's degree in aeronautical engineering from the **Naval Postgraduate School** and attended Navy flight school, where he earned his wings and was assigned to fly the F-14A Tomcat.

## **UPCOMING NEWS & EVENTS:**

**June 26:** [Strategic Communication Workshop](#)

**July 4:** Independence Day (Federal Holiday)



## GRADUATION:

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U.S. Space Force Gen. John W. “Jay” Raymond, Chief of Space Operations, served as the keynote speaker for the ceremony honoring 343 graduates, including three Guardians and 18 international students from 11 countries. Raymond also had the opportunity to tour the campus prior to graduation to see firsthand how NPS creates critical thinkers and innovation leaders in support of the Department of Defense’s space mission.

Kicking off the ceremony, NPS President retired Vice Adm. Ann E. Rondeau addressed the graduating class along with their families and friends, noting that NPS is home to the learning, exploring and discovery that shapes warrior-scholars.

In her remarks, Rondeau discussed the university’s own legacy in space, noting that 44 NPS alumni have become NASA astronauts – more than any other graduate school in the world. She acknowledged NPS’ Space Systems Academic Group for its extraordinary work in preparing students for careers in space-related fields.

“Our Space Systems Academic Group, which celebrates its 40th anniversary this year, has provided a clear avenue for many officers from the Navy, Marine Corps, Army, Air Force and now the Space Force to become space professionals through rigorous curricula focused on space systems engineering and operations. One of those officers is our very own Secretary of the Navy, the Honorable Carlos Del Toro,” she continued.

Rondeau reminded the graduates that they must keep sharpening their tool kit, citing a quote by basketball star Stephen Curry of the NBA champion Golden State Warriors.

“Win, lose, whatever it is, wherever, however you play, you have to keep coming back to the well to keep sharpening the toolkit and finding ways to evolve your game,” she quoted.

“It’s about leadership, about knowledge that needs to be continuously refreshed and affirmed,” added Rondeau. “So, ladies and gentlemen and our warrior-scholar students, my comment is that our nation needs us to lead. And we will do that.”

With that, Rondeau turned the podium over to the ceremony’s commencement speaker to a sea of applause. Raymond addressed the graduates, talking about the issues they will face and how NPS has enabled them to meet our national security needs.

“Solutions to the many challenges to our national security will require analytical thinking and creative problem-solving ... Luckily, as graduates of NPS I know we can count on you for answers,” said Raymond.

Drawing similarities between NPS and the Space Force, Raymond spoke on how they came to be when the U.S. Navy and national leaders, respectively, recognized growing threats and the need to counter them. Continuing down that trail of thought, he mentioned how the Navy and Space Force work in environments that are global, shared between nations, rich in resources, and critical habitats for our prosperity and security.

“As a global power, it’s no surprise the United States is both a sea- and a space-faring nation,” said Raymond. “The two domains share a certain allure — a sense of mystery. The ‘wine-dark sea,’ in Homer’s words, calls to us... whether it’s the vast, deep oceans or the infinite skies above.”

Raymond continued by stressing the importance of NPS and the role its graduates play in the defense of our nation.

“This school’s focus on technical knowledge and hands-on expertise is unparalleled,” noted Raymond. “And this technical focus allows you, as a graduate, to drive the pace of change because you understand at a very granular level what is possible and what is not, both tactically and strategically. The



Naval Postgraduate School educates you on how to think and analyze a problem; this provides profound value to our entire joint force, and to the Space Force in particular.”

Raymond finished his remarks by reminding the graduates to embrace the change and remember their own and their service’s values.

“Center your values in everything you do. Lead the people whose lives America has entrusted you with integrity and with humility; never ask them to do something you wouldn’t do yourself,” said Raymond. “Finally, and most importantly, be a good person. Treat everyone with dignity and respect.”

[Chief of Space Operations Congratulates NPS Spring Quarter Graduates > United States Navy > News-Stories](#)

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## Space ‘Underpins All Instruments of National Power,’ Raymond Says

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Calling space the “critical doorway to war” for all the other armed forces, Chief of Space Operations Gen. John W. “Jay” Raymond addressed 300 Soldiers, Sailors, Airmen, Marines, and Guardians graduating from the **Naval Postgraduate School** on June 17.

“Whether you’re in the Army, Navy, Air Force, or Marines, all of your force structure assumes that you have access to space,” Raymond said. “And if we don’t have access to space, we don’t have enough ships, airplanes, tanks, Airmen, soldiers, sailors, Marines, to do what our nation is asking you to do.”

Space Force leaders have said they want to build their focus on fighting and operational impact this year, the service was established. One way USSF is doing so is forming new components to embed within geographic combatant commands, like U.S. Central Command, U.S. European Command, and U.S. Indo-Pacific Command.

“Space underpins all instruments of our national power, and space has become vital to our national security—from global missile warning to precision navigation and timing to global communications and, increasingly, global intelligence, surveillance, and reconnaissance,” Raymond said. “Space is a huge force multiplier for all of our services.”

Debate over whether the Space Force should provide support functions to other services or project power in space, as a distinct warfighting domain continues, but Raymond said the new National Defense Strategy clearly recognizes “the character of war has changed,” requiring a multi-faceted approach to Space.

“It’s global, it’s multi-domain, it’s conducted at great speeds and across vast distances—global distances,” Raymond said. “Autonomy, artificial intelligence, machine learning, [and] commercial capabilities will be at the forefront.”

Space shares similarities with the maritime domain, he said, noting that both are “global, ... rich in resources, and they’re both critical to our prosperity and to our security.”

While the Space Force was largely formed from the former Air Force Space Command, it has begun to identify Sailors and Marines for transfer into the Space Force. Just recently, the Naval Satellite Operations Center became the 10th Space Operations Squadron. Having a unique space identity, however, does not preclude relying on established educational programs like the Naval Postgraduate School.

“The Naval Postgraduate School educates you on how to think, how to analyze a problem, and this provides profound value to our entire Joint Force and to the Space Force in particular,” Raymond said. “It allows cutting edge advancement in research and development. It creates leaders who can think their way out of problems, like how does one stand up a lean new high-tech service?”

[Space 'Underpins All Instruments of National Power,' Raymond Says - Air Force Magazine](#)

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## RESEARCH:

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Bill Hamblet, the executive vice president for periodicals and membership at the U.S. Naval Institute (USNI) and editor-in-chief of USNI's magazine *Proceedings*, visited the **Naval Postgraduate School** (NPS) on June 7 to participate in a panel discussion titled, "The Need for U.S. Seapower in a Challenging World."

The presentation, held in NPS' Glasgow Hall and broadcast live online, was part of the Naval Warfare Studies Institute's (NWSI) Seapower Conversations series, and was moderated by retired Navy Capt. Jeff Kline, a professor of practice in the Operations Research department and director of NWSI, as well as Dr. Jim Wirtz, a professor in the National Security Affairs department.

*Proceedings* is a monthly publication that features a variety of content. Known as "the independent forum of the sea services," *Proceedings* is a compilation of articles, essays and discussion forums that offer the fleet a chance to be heard. USNI recently published a series of articles under the name of "The American Seapower Project" which focused on communicating the importance of naval power to a maritime nation and the current state of the U.S. naval services.

"The world has changed significantly in the past few years," said Hamblet. "The threats to global maritime security along with the rise of great power competition required us to design a project to reframe the thinking of seapower and its importance to the American people."

The American Seapower Project was originally started in January 2021 with the hopes to "inform strategy, planning, and procurement within the Sea Services and the government and build public support for the continued role of maritime power for the United States." Hamblet believes that the project has done just that.

Not only has USNI published a series of articles about the project, but it has also attended multiple panels at various conferences in hopes of spreading awareness for the cause, Hamblet noted.

"It needs to be a conversation with the American public," he stressed. "Our leaders and the general public need to understand the importance of maritime security and how directly it affects us every day."

Kline and Wirtz, along with NPS professor James Russell, were contributors to an article that was published by the Foreign Policy Research Institute earlier this year discussed the rise and fall of historically great naval powers.

"Today we have a rising Chinese competitor, technological advances in anti-access, area denial technology as well as long-range ballistic missiles that essentially change the way the Navy operates," said Wirtz. "It creates a real problem in terms of American foreign and defense policies where we are no longer free to sail across the Indo-Pacific without putting ourselves at risk."

"Today, we have a dual cycle of rising competitors combined with emerging technology," added Kline. "Right now, we are in a position where our primacy is being challenged by both."

While at NPS, Hamblet was able to visit multiple facilities and speak with faculty and students. He also presented an award to NPS student, U.S. Navy Ensign Sarah Clark, who recently won an essay contest co-sponsored by USNI. Clark's essay explored the cultural challenge associated with the transition from crewed to uncrewed aircraft.

Watch the full presentation on the NPS YouTube Channel, and visit the Seapower Conversations website for more information on the program and to watch past lectures.

[NWSI Hosts U.S. Naval Institute Leader for Latest Seapower Conversation > United States Navy > News-Stories](#)

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## FACULTY:

### **The Risk of Russian Cyber Retaliation for the United States Sending Rockets to Ukraine**

*(CFR 21 June 22) ... Scott Jasper*

U.S. rocket shipments to Ukraine will not trigger Russian cyberattacks against the United States. Russian is too focused on attacking Ukrainian systems and defending their own networks to mount a response to the weapons shipments.

For months President Biden and his administration have warned of possible Russian cyberattacks against American infrastructure. On March 21, Biden urged American business leaders to harden their companies' cyber defenses immediately. He said Russian President Putin is "likely to use cyberattacks as a form of retaliation" for U.S. actions to counter the Russian invasion into Ukraine. His alarm followed an FBI advisory that hackers with Russian internet addresses were scanning the networks of five U.S. energy companies. On April 18, U.S. officials ramped up warnings that Russian state actors are "looking for weaknesses in our systems." Even though evolving intelligence indicates Russian planning for cyberattacks, none yet have emerged on American soil.

The U.S. provision of long-range rocket systems to Ukraine will not trigger a catastrophic campaign of Russian cyberattacks against American critical infrastructure, as long as Ukraine continues to only use the systems within its own territory. The reality is that the latest weapons transfers are not a significant escalation and will not lead Russia to expand its cyberattacks. Russian threat actors are devoting most of their resources to defending networks within their own country and attacking Ukrainian networks, and devoting resources to attacking the West would distract from the core Russian objective of capturing Ukrainian territory. This combination of Russian cyber priorities and the similarity between current weapons shipments and previous ones combine to ensure that Russia will not retaliate against the United States through cyberspace for providing rockets to Ukraine.

In late May, Ukrainian President Zelenskyy pleaded for the United States to provide the Multiple Launch Rocket System (MLRS) as a game changer in the war. The weapon system can launch rockets more than 185 miles. A prominent Russian television host said on the state network Rossiya-1, "if the Americans do this, they will clearly cross a red line, and we will record an attempt to provoke a very harsh response from Russia." After considering National Security Council concerns of escalating the war, President Biden stated, "We are not going to send to Ukraine rocket systems that strike into Russia."

Instead, the United States is sending a much shorter-range system, the High Mobility Artillery Rocket System (HIMARS), that has a range of around 45 miles. In response, Putin has threatened to strike new targets in Ukraine. Putin says "this is nothing new. It doesn't change anything in essence," since the U.S. missile's range is the same as Soviet-made missiles that Ukraine already had. His conclusion might change if Russian forces take substantial losses or if a Ukrainian ask for sixty launchers is granted, instead of the four already dispatched by the Pentagon. Russian Foreign Minister Lavrov alleges Ukraine will strike targets inside Russia, even though U.S. officials received assurances from Ukraine they will use the systems only within its territory. A close Putin ally warns Moscow could target western cities if Russia is hit with U.S. rockets.

U.S. security agencies have provided cybersecurity advisories for organizations to better understand Russian state-sponsored cyber threats to U.S. critical infrastructure. They illuminate the speed, scale, and sophistication of Russian cyber operations. One of their historic examples of high-profile cyber activity publicly attributed to Russian cyber actors is a multi-stage intrusion campaign that gained remote access to U.S. energy sector networks. The Russians compromised dozens of utilities and got to the point where they could have thrown switches to shut off power. In April, Russian military hackers tried to knock out power to millions of Ukrainians. They penetrated grid networks and uploaded malware named Industroyer2, an upgraded version of malware used in a 2016 attack that caused blackouts in Kyiv. The malware was programmed to activate on a Friday night as citizens came home from work.

At least seven Russian aligned cyber threat groups have conducted destructive attacks and espionage operations in Ukraine in support of Russian military goals. Microsoft reports those with known or suspected ties to Russian military intelligence have used destructive wiper malware or similar tools on



select Ukrainian networks “at a pace of two to three incidents a week” since the beginning of the invasion. More than 40 percent of the destructive attacks are targeted against critical infrastructure organizations. In total, the different Kremlin-linked hacking groups have conducted almost 240 cyber operations against Ukraine targets. The scope is broader than perceived from media outlet reports and represents potential saturation of Russian cyber capabilities. Particularity considering the magnitude of the Ukrainian defense that could be tying down the groups. John Hultquist, a vice president at Mandiant states, “defenders [in Ukraine] are very aggressive and very good at confronting Russian actors.”

Russian groups have demonstrated the capability to damage U.S. critical infrastructure even before the current conflict in Ukraine. The Russian-based criminal group DarkSide reduced the flow of fuel to the U.S. east coast when it infected Colonial Pipeline with ransomware and forced the company to shut down part of its network. In February, the Black Cat group, a suspected rebrand of DarkSide, followed suit with ransomware attacks on seventeen European oil port terminals. Perhaps most concerningly, last month the Cybersecurity and Infrastructure Security Agency (CISA) warned about industrial control system malware, dubbed PIPEDREAM, which could be used to disable liquid natural gas facilities. President Putin has waged a relentless cyber campaign against Ukraine, but so far, its effects have not stretched beyond Ukraine’s borders.

There are several reasons why cyberwar has not spread to the West. Some Ukrainian officials believe that Russia’s best government sponsored hackers may be occupied defending their nation from attacks on its networks by activists or other hackers. Shortly after the invasion, Ukraine formed an IT Army, a loose band of citizens and foreign hackers that are directed by government officials, but not officially part of the government. The volunteers are attacking key Russian and Belarusian websites with distributed denial of service (DDoS) attacks, exposing data on high-ranking officials and agencies, and launching wiper attacks against Russian networks and systems. Adding to the pressure, the international hacking collective Anonymous has declared cyber war against the Russian government, further stressing website and database defenses. The Russians would have to shift priorities to attack U.S. critical infrastructure by cyber means, which takes time to prepare and penetrate networks and uses advanced tactics that are necessary to evade detection. Only a significant escalation in the war, such as devastating attacks by U.S.-supplied rockets against their homeland, would likely merit a shift from Russian nation state cyber operators toward the United States.

Absent significant strikes in Russian territory, U.S. shipments of HIMARS are unlikely to shift the thinking of the Russian leadership towards attacking the United States through cyberspace. This is not to say that the Russians do not pose a threat to the United States, they clearly do, or that future decisions or circumstances will not induce them to turn toward a more offensive strategy. Russian threat actors certainly have the capability to escalate, either by integrating criminal hackers or pivoting away from defense of their home networks. However, despite concerns about escalation, the provision of HIMARS and similar rocket systems are not enough of a change from previous arms deliveries to trigger a shift in Russian thinking on cyberattacks against the West.

Dr. Scott Jasper is a Senior Lecturer at the **Naval Postgraduate School** in Monterey, California, and the author of *Russian Cyber Operations: Coding the Boundaries of Conflict* by Georgetown University Press.

<https://www.cfr.org/blog/risk-russian-cyber-retaliation-united-states-sending-rockets-ukraine>

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## **EU's Sanction on Russian Oil Boomerangs, Boosts Global Prices to Moscow's Benefit**

*(AA.com 15 June 22)*

The EU sanctions on Russia's oil exports, which were intended to cripple the Russian economy, have instead boosted oil prices by raising supply pressure on the market, bolstering the country's oil profits as Europe struggles to source their imports from alternative energy suppliers.



Earlier this month, EU leaders agreed on the 6th sanctions package which calls for a 90 percent reduction in Russian oil imports by the end of 2022.

The plan also includes phasing out Russian crude oil supplies in six months and the supply of refined products by the end of the year.

The EU states agreed to ban seaborne oil transport, partially exempting pipeline oil as some member countries including Hungary opposed particularly to the oil import ban via the Druzhba pipeline which transports Russian oil to the refineries in Poland, Germany, Hungary, Slovakia and the Czech Republic.

Although the EU which imports around 25% of its oil from Russia aimed to crash the Russian economy using the oil embargoes, the recent data shows that the bloc has so far failed to achieve it.

According to the International Energy Agency (IEA), Russia's oil revenue has increased by 50% since the beginning of the year to \$20 billion a month, with the EU accounting for the lion's share of its exports.

Despite the sanctions currently in place, the IEA said overall Russian oil exports increased by 620,000 bpd in April, rebounding to the January-February average of 8.1 million bpd.

Amos Hochstein, the US energy security envoy, told the Senate Subcommittee on Europe and Regional Security Cooperation that Russia may be getting more revenue from its fossil fuels now than it did shortly before its invasion of Ukraine, as global oil price increases offset the impact of Western efforts to restrict Russian sales.

### **- Oil embargo creates opposite effect in short term**

Brenda Shaffer, a professor at the US **Naval Postgraduate School**, pointed to the differences between the markets of crude oil and natural gas and said the supplies that Europe rejected to import would be picked up by other consumers.

Noting that the Russian oil imports in India and China had already started to increase, Shaffer said the sanctions which are intended to hurt Russia appear to have boomeranged on the West and have ended up hurting the European national economies.

“In fact, we're in a situation today, we've set up the international economy now in a way where China gets discounted oil from Iran and Russia while the West is paying a much higher price for oil. So this, in the sense, is a huge economic advantage to China over the West and in this kind of situation where they can access discounted oil,” Shaffer said.

However, Matthew Bryza, former US ambassador to Baku said “the Russian economy is going to be damaged and that's the goal, making it economically infeasible or not possible for Russia to invade another neighboring country. It will take some time for that to happen, but that will happen.”

Highlighting that the crude oil can be transported easily and thus “the market will find different outlets for this”, Shaffer pointed to the increasing demand for light Azerbaijan oil due to its strategic location in the Mediterranean area “where it is exported from the Turkish port of Ceyhan.”

With the EU and the US not buying Russian oil, she said the oil prices have seen upward pressure and “this creates some higher pressure on the market”.

“Russia might end up not actually losing a lot of revenue because yes, it will be selling less oil, but on the other hand will be sold at a higher price. But, eventually, these high commodity prices, high oil prices, high gas, high coal, high metals, high food prices, high grain prices, fertilizer, eventually this will trigger a recession,” she said.

“We have already seen it in many countries, in Germany, in the UK, maybe already starting in the US,” Shaffer said, warning that the market response to these high oil prices would be a recession which always destroys the demand and then brings down the prices.

“So, oil will go down but not for a good reason,” she said.

Bryza, for his part, explained that if Russian oil is slashed from the market, oil prices would keep their upward tendency.

“But, if some Russian oil continues to go to the market and for a lower price, we'll see oil prices stabilize and maybe go down,” Bryza noted.

He went on to note that the price movements depend on so many factors, including how much Russian oil is taken out of the market due to the sanctions and said “we don't know that yet.”





However, despite the consternation, international terrorists never launched a nuclear terrorist attack, and the national security community was quick to move on to more pressing threats. With one condemning line, the 2018 National Defense Strategy of the United States of America stated, “Inter-state strategic competition, not terrorism, is now the primary concern in U.S. national security.” Given that terrorism had been the primary source of concern for a nuclear incident for roughly two decades, it appeared that this threat could be declared dead.

### **Long Forgotten: The Decline in Preparedness**

American concern for a domestic nuclear attack atrophied. The Cold War had ended without a nuclear crisis; so, too, had the age of terrorism. As the world advanced into the Digital Age, a full-scale nuclear war seemed completely incomprehensible, much less a more conventional conflict between nuclear-armed superpowers. As then Chairman of the Joint Chiefs of Staff Admiral Michael Mullen lamented in 2010 about the lack of nuclear warfare expertise in the Pentagon, “We don’t have anybody in our military that does that anymore.” He continued, “It’s as if we all breathed a collective sigh of relief when the Soviet Union collapsed and said to ourselves, ‘Well, I guess we don’t need to worry about that anymore.’” Instead, as China and Russia began projecting their power through liminal warfare, defense and security resources were dedicated to countering these threats, namely cyber-attacks and disinformation campaigns. Modern warfare experts thought that future conflicts would be fought purely as such, not with nuclear force, so it seemed that the nuclear attack threat had gone to the grave for good.

Moreover, domestic preparedness for a nuclear attack has long been declining in the United States. Despite the concern for nuclear terrorism over the past two decades, natural disasters have long overtaken the concern for a nuclear detonation and civil defense at the Federal Emergency Management Agency (FEMA). As H. Quinton Lucie laments, “The United States has not had a comprehensive strategy to protect its civilian population and defense industrial base, or to mobilize and sustain the nation during time of war, in almost 25 years.” While this observation is made in the broader context of general war, its applicability to domestic nuclear attack preparedness is clear. After all, even a single incident would require a massive number of resources to successfully mitigate.

To make matters worse, many state and local officials are openly relying on the federal government to step up and lead in the aftermath of such an event. In a 2019 Federal Emergency Management Agency PrepTalk, emergency manager and health physicist Brooke Buddemeier spoke of his experience asking these officials about their needs after a nuclear attack. As he recalled, the most common response was, “Nuclear detonation? That’s a fed thing, right? Wait for the guys in green to save the day?” As he concluded, “Nobody really has a plan for the aftermath of a nuclear detonation...In fact, there’s a lot of uncertainty about what the response needs even are, and what the role of federal, state, and local agencies is.” Concerningly, these observations were solidified by the research findings of another study, which identified several gaps in domestic nuclear detonation response capabilities.

### **Back from the Dead: Russia’s Threats of Nuclear Escalation**

In his 1922 poem “The Waste Land,” T.S. Eliot ominously warns the reader, “I will show you fear in a handful of dust.” In a March 2022 keystone conversation hosted by the Center for Strategic and International Studies, former Secretary of Defense William Cohen added the modifier “radiation dust” to this somber warning. Obviously, Secretary Cohen was speaking of Russian President Vladimir Putin, who has implied threats of nuclear escalation should the West interfere with his military action in Ukraine. While these threats have serious implications for the United States’ ability to project power overseas, they have revealed another concerning weakness of American national security: the home front, particularly in the context of a nuclear crisis. After all, as the previous section described, America’s ability to handle such an incident is, at best, questionable.

Of course, the overall threat of an intentional nuclear attack remains very low, because the threshold for the use of nuclear weapons remains very high, even by President Putin’s standards. However, when Russia cut off communication with the Department of Defense, some warned there was an increasing likelihood for a misunderstanding to lead to an unintended nuclear incident.[17] Furthermore, even a single nuclear detonation could have massive strategic implications for the United States. The potential scale of any such event and unprecedented magnitude of the consequences demand attention.[18]

Conclusion



The nuclear attack threat was thought to have died with the age of international terrorism. However, Russia's threats of nuclear escalation following its invasion of Ukraine have awoken it from the grave. Despite this resurrection, old concepts of civil defense and domestic nuclear detonation preparedness have yet to revive with it. As such, the United States is unprepared to address this threat, revealing a significant weakness of national security on the home front that demands immediate attention.

Robert T. Wagner is a Department of Army Civilian, and holds a Master of Arts Degree in Security Studies from the **Naval Postgraduate School**. His research interests include homeland defense, civil military relations, and emergency preparedness. The views expressed are the author's alone and do not reflect those of the U.S. Army, the Department of Defense, or the U.S. Government.

[Return from the Grave: The Domestic Nuclear Attack Threat \(thestrategybridge.org\)](https://thestrategybridge.org)

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## **Veteran NASA Astronauts David Leestma, Sandra Magnus and Chris Ferguson Inducted into U. S. Astronaut Hall of Fame at Kennedy Space Center Visitor**

*(Space Ref 15 June 22)*

Veteran NASA astronauts David Leestma, Sandra Magnus and Chris Ferguson were inducted on June 11 into the prestigious U.S. Astronaut Hall of Fame – marking the 20th class of honorees to join the esteemed society.

The ceremony was held at Kennedy Space Center Visitor Complex, set against the awe-inspiring backdrop of the space shuttle Atlantis. Leestma, Magnus and Ferguson were honored for their outstanding accomplishments in furthering NASA's mission of exploration and discovery. Their induction brings the total number of Astronauts in the U.S. Astronaut Hall of Fame to 105.

Delivering remarks to officially welcome the astronauts to the U.S. Astronaut Hall of Fame were Curt Brown, board chairman of the Astronaut Scholarship Foundation, Therrin Protze, chief operating officer, Kennedy Space Center Visitor Complex, and Janet Petro, center director, NASA's Kennedy Space Center. More than 15 other veteran astronauts, many of whom also have been inducted into the hall of fame, attended the ceremony.

“As we embark on the next generation of space travel, it's critical to recognize the space pioneers who have dedicated their careers to furthering the space program's mission,” said Protze. “Each of these astronaut veterans has made extraordinary contributions to space exploration. We're honored to welcome them into the U.S. Astronaut Hall of Fame.”

Leestma, Magnus and Ferguson all have had distinguished careers, centered around their love of space and science.

### **Capt. David Leestma, STS-41G, STS-28, STS-45**

David Leestma (Capt., USN, ret.) was selected as an astronaut in 1980 and subsequently flew three space shuttle missions – STS-41G, STS-28 and STS-45. He performed a wide variety of mission tasks, gaining invaluable experience in human spaceflight.

Leestma's three space flights gave him a unique background (extravehicular activity, remote manipulator system operations, Department of Defense flight operations, on-orbit contingency operations, Spacelab operations, international liaison, vehicle/systems operator, on-orbit command) that enabled him to perform in a variety of NASA executive positions after retiring from the Astronaut Office and the Navy.

He was selected as the Director, Flight Crew Operations, responsible for the astronaut office and Johnson Space Center (JSC) aircraft operations. During his tenure 41 space shuttle flights and seven shuttle-MIR flights were successful and safely flown, three new astronaut classes were selected,



International Space Station (ISS) assembly operations were begun, and he oversaw the requirements, development and in-house modification of the NASA T-38A fleet to the T-38N.

He was subsequently assigned as the Deputy Director, Engineering, in charge of the JSC Government Furnished Equipment (GFE) projects for the ISS. Leestma then became the JSC Program Manager for the Space Launch Initiative responsible for all JSC work related to the development of a new launch system. He also served as the Assistant Program Manager for the Orbital Space Plane, responsible for the vehicle systems and operation of a new crewed space craft.

He continued his career at NASA serving in a variety of senior executive positions that allowed him to adhere to his vision of human exploration beyond low earth orbit and cultivate the necessary relationships across the Agency and internationally to garner the support for future exploration programs. For his accomplishments he was twice awarded the Presidential Rank of Meritorious Executive.

Leestma retired from NASA in 2014 after 47 years of government service (35 of them with NASA).

A 1971 graduate of the U. S. Naval Academy, Leestma obtained his master's degree in aeronautical engineering from the **Naval Postgraduate School** and attended Navy flight school, where he earned his wings and was assigned to fly the F-14A Tomcat.

He served as an operational flight crew member for three overseas deployments and later as an Operational Test Director for the F-14A.

### **Dr. Sandra Magnus, STS-112, STS-126, STS-135**

Selected to the NASA Astronaut Corps in April 1996, Dr. Sandra H. “Sandy” Magnus flew in space on the STS-112 shuttle mission in 2002, and on the final shuttle flight, STS-135, in 2011. In addition, she flew to the International Space Station on STS-126 in November 2008, served as flight engineer and science officer on Expedition 18, and returned home on STS-119 after four and a half months on board.

Following her assignment on Station, she served at NASA Headquarters in the Exploration Systems Mission Directorate. Her last duty at NASA, after STS-135, was as the deputy chief of the Astronaut Office. While at NASA, Magnus worked extensively with the international community, including the European Space Agency and the Japan Aerospace Exploration Agency on facility-type payloads for the International Space Station (ISS). She also spent extensive time in Russia developing and integrating operational products and procedures in preparation for the beginning of ISS operations.

After her work in Russia, she served as a capsule communicator or CAPCOM in the ISS mission control center during the initial phases of crewed missions and later worked with the Canadian Space Agency on robotics procedures for the Special Purpose Dexterous Manipulator, or Canada Arm 2. Before joining NASA, Magnus worked for McDonnell Douglas Aircraft Company from 1986 to 1991, as a stealth engineer where she worked on internal research and development and on the Navy’s A-12 Attack Aircraft program, studying the effectiveness of radar signature reduction techniques.

Currently, Magnus is the Principal at AstroPlanetview, LLC and a part time Professor of the Practice at the Georgia Institute of Technology. In addition to her work at Georgia Tech, she is a member of several technical advisory boards and is active as an independent consultant in the aerospace industry.

Prior to striking out on her own, she was the Deputy Director of Engineering in the Office of the Secretary of Defense for the Undersecretary of Research and Engineering. In that role she served as the “Chief Engineer” for the DoD establishing engineering policy, propagating best practices and working to connect the engineering community across the department.

In addition, she is the former Executive Director of the American Institute of Aeronautics and Astronautics (AIAA), the world’s largest technical society dedicated to the global aerospace profession. Prior to leading AIAA, Magnus was a member of the NASA Astronaut Corps for 16 years.

Born and raised in Belleville, Ill., Magnus attended the Missouri University of Science and Technology, graduating in 1986 with a degree in physics and earning a master’s degree in electrical engineering in 1990. She received a Ph.D. from the School of Materials Science and Engineering at Georgia Tech in 1996.

She is a member of the NASA Aerospace Advisory Panel and President of the Board of AstraFemina, a non-profit dedicated to connecting women in STEM role models to girls to inspire them to pursue



STEM careers. Magnus has received numerous awards, including the NASA Space Flight Medal, the NASA Distinguished Service Medal, the NASA Exceptional Service Medal, Office of the Secretary of Defense Medal for Exceptional Public Service and the 40 at 40 Award (given to former collegiate women athletes to recognize the impact of Title IX).

### **Capt. Chris Ferguson, STS-115, STS-126, STS-13**

A retired U.S. Navy captain and former NASA astronaut, Christopher J. Ferguson was pilot of STS-115, commander of STS-126 and of the final shuttle mission, STS-135. He has logged more than 40 days in space and 5,700 hours in high-performance aircraft. He also served as deputy chief of the Astronaut Office and was spacecraft communicator (CAPCOM) for the STS-118, -120, -128 and -129 missions.

Ferguson currently is the flight crew representative for Boeing's Commercial Crew Program. In this role, Ferguson ensures the CST-100 Starliner spacecraft and training systems meet the needs of NASA's astronauts. In a previous role he was responsible for making sure teammates on the ground are trained and ready to support crewed missions to the International Space Station, from pre-launch to docking, and undocking to landing and recovery.

Ferguson works with NASA's Human Exploration and Operations Directorate along with Johnson Space Center's Engineering, Flight Crew and Mission Operations organizations and NASA's Commercial Crew Program to ensure Boeing's crew transportation system supports NASA's human rating requirements. He also plays a key leadership role in the development and human-in-the-loop testing of critical system technologies.

He holds a Bachelor of Science degree in mechanical engineering from Drexel University and a Master of Science degree in aeronautical engineering from the **Naval Postgraduate School**. He has been recognized with numerous service awards and citations, including the Legion of Merit, Distinguished Flying Cross, Defense Meritorious Service Medal, Navy Strike/Flight Air Medal, NASA Spaceflight Medal (three), Navy Commendation Medal (three) and the Navy Achievement Medal.

[Veteran NASA Astronauts David Leestma, Sandra Magnus and Chris Ferguson Inducted into U. S. Astronaut Hall of Fame® at Kennedy Space Center Visitor \(spaceref.com\)](#)

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