



# NPS IN THE NEWS

## Weekly Media Report – July 19-July 25, 2022

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### EDUCATION:

#### [Opportunity Knocks...Military Sealift Command Leadership and Development Programs](#)

*(DVIDS 19 July 22) ... Bill Mesta*

Twenty Military Sealift Command Teammates are currently utilizing MSC leadership and professional development programs to further their careers... Some of the MSC leadership and development programs available for teammates include Defense Senior Leader Development Program (DSLDP), Executive Leadership Development Program (ELDP), Federal Executive Institute Leadership for a Democratic Society (FEI LDS), Dwight D. Eisenhower School (ES) Master of Science in National Resource Strategy, Old Dominion University Graduate Certificate in Public Sector Leadership (ODU GCPSL), **Naval Postgraduate School** Data Science Certificate (NPS DSC), Naval War College (NWC) Intermediate or Senior Level Program, Graduate School Executive Leadership Program (ELP), Graduate School Executive Potential Program (EPP) and the MSC Civilian Rotation Training Opportunity (CRTO) Program.

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#### **Contract Management Education Award**

- **Naval Post Graduate School**

### RESEARCH:

#### [NPS Researchers Explore the Impact of Sea Ice Change in Bering Sea](#)

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*(Eurasia Review 21 July 22) ... Rebecca Hoag*

The Bering Sea is the most productive ground fishery in the world, particularly for salmon, halibut and shellfish. About half of U.S. fish and shellfish come from that area and the fishing industry is the main driver of jobs in and around the Aleutian Islands. The freezing and melting of sea ice in the area heavily impacts the primary productivity, which is the bottom of the marine food chain.

#### [Navy Ship Utilizes 3D Printing Out at Sea](#)

*(Navy Times 21 July 22) ... Jonathan Lehrfeld*

The Navy recently installed a 3D printer on board the Wasp-class amphibious assault ship Essex, stationed at Joint Base Pearl Harbor-Hickam, in Hawaii, to help test the new printing technology out at sea.



The **Naval Postgraduate School**, which led the research effort on the technology, helped to install the printer on the Essex and run diagnostic tests on July 8 and July 9 in the midst of the Navy's Rim of the Pacific exercise, according to a Navy press release.

### **Black Americans' Unemployment Payments Are 11 Percent Lower Than White Americans' Due to Uneven State Policies**

(Observer 21 July 22) ... Courtney Vinopal

A National Bureau of Economic Research study calculates the racial gap in unemployment benefits, with Black applicants receiving payments that are lower on average than white applicants...A new study by researchers at the University of Copenhagen, University of Pennsylvania, and the **Naval Postgraduate School** calculates just how much Black workers have missed out on unemployment payments compared to white workers due to uneven state policies.

### **STUDENTS:**

#### **The Pacific Deterrence Initiative: Defending Guam Is Paramount**

(USNI 20 July 22) ... Lt. James Magno

No region is more important to today's great power competition than the Indo-Pacific. For more than two decades, while the United States was rightly consumed with wars in the Middle East, China and Russia have expanded their military capabilities significantly throughout the region. Today, the People's Liberation Army Navy (PLAN) greatly outnumbers the U.S. Seventh Fleet in the western Pacific and the U.S. Indo-Pacific Command (IndoPaCom) is focused on how best to position the forces it has against China... Lieutenant Magno is a 2015 graduate of the U.S. Naval Academy. A career surface warfare officer, he is currently a student at the **Naval Postgraduate School** studying security studies (homeland security and defense) and pursuing a certificate in great power competition. He has served on board the USS Wayne E. Meyer (DDG-108) in San Diego, California, and the USS Patriot (MCM-7) in Sasebo, Japan. Most recently, he was the flag lieutenant to Commander, Expeditionary Strike Group 7 in Okinawa, Japan.

### **FACULTY:**

#### **Azerbaijan Eager to Supply More Gas to Europe in Russia's Stead**

(Nikkei Asia 19 July 22) ... Sinan Tavsan

The European Union on Monday signed a memorandum of understanding with Azerbaijan, aiming to double gas imports from the energy-rich South Caucasus country as the 27-member bloc seeks to reduce dependence on Russia... Brenda Shaffer, a professor at the U.S. **Naval Postgraduate School** and an expert on Caspian energy, said although Azerbaijan gas alone cannot solve the EU's gas dependence on Russia, an additional 10 bcm would mean a lot for Southern Europe and Western Balkan states such as Greece, Bulgaria and Italy. "Italy is weathering the current crisis better than many others in Europe, due to dedicated supplies arriving from the Southern Gas Corridor," she said.

### **ALUMNI:**

#### **Las Vegas Fire & Rescue Chief**

(Las Vegas Nevada 20 July 22)

Las Vegas City Council unanimously ratified Fernando Gray as the city's new chief of the Las Vegas Fire & Rescue Department. Gray has more than 25 years of fire services experience and was selected for the director position by City Manager Jorge Cervantes... Gray is also a proud alumnus of both the **Naval Postgraduate School's** Executive Leaders Program and the Harvard Kennedy School's Senior Executives Program.

#### **JBAB Master Sergeant Wins 12 Outstanding Airmen of the Year Award**

(DVIDS 20 July 22) ... Airman 1<sup>st</sup> Class Anna SMith

Each year, the Air Force honors their most exceptional with one of the service's highest accolades: being named as one of the 12 Outstanding Airmen of the Year. This year, the Airman chosen to represent Air Force District of Washington was one of Joint Base Anacostia-Bolling's own, U.S. Air Force Master Sgt. Kade Forrester...Now, Forrester is a graduate student at the **Naval Postgraduate School** in Monterey, California. This very feat contributes



to his exceptionalism, as he was one of the first-ever enlisted personnel selected for this program, which is usually tailored toward officers. Upon completion, he will have a master's degree in acquisition and contract management.

### **[HPU Family Establishes the McFerren Family Endowed Scholarship](#)**

*(High Point University 22 July 22)*

High Point University parents Shannon and Michael McFerren of Bel Air, Maryland, recently established the McFerren Family Endowment to support the Access to Innovators program, which allows students the opportunity to connect with industry leaders for networking, mentorship, career and professional development... Michael is the owner and operator of 3 Strands, LLC, the restaurant operating corporation he founded to oversee the operation of his three Chick-fil-A franchises. In 1987, Michael graduated from Allegheny College with a Bachelor of Science in physics. After college, he joined the United States Navy and graduated from the **Naval Postgraduate School** in 1995 with a master's in operations analysis. Michael was a pilot for 12 years, and in 2000, joined the Military Recruiting Institute as a recruiter. In 2004, he and his family became owners of their first Chick-fil-A franchise. The McFerrens own restaurants in Abingdon, Maryland, and Aberdeen, Maryland, and have a location on the campus of the University of Delaware in Newark, Delaware. Shannon graduated from the Southeast Center for Photographic Studies in 1991 with an Associate of Science in photography. In 2001, she pursued her life's passion by opening her own photography company, Shannon McFerren Photography. In addition to running her business, Shannon works as the accounts payable manager for 3 Strands, LLC.

### **[IFLScience Meets: NASA Engineer Joan Melendez Misner On Inspiring The Next Generation's Involvement In STEM](#)**

*(IFLScience 22 July 22) ... Johannes Van Zijl*

Joan Melendez Misner is an Integration Engineer at NASA working on space & asteroid planetary defense missions. Her work includes sending a helicopter to Titan (Dragonfly), a spacecraft to Europa (Europa Clipper), and crashing a spacecraft into an asteroid (DART)... Once I graduated, I was hired full-time at NAVAIR and got to work as a Fuel Systems Engineer for Navy jets, aerial refueling, and a propulsion engineer. I gained valuable knowledge in test engineering, systems engineering, and reliability. While I was working full-time, I also earned my master's degree in Systems Engineering from **Naval Postgraduate School**.

## **UPCOMING NEWS & EVENTS:**

**July 26:** [Strategic Communication Workshop \(SCW\)](#)

**Aug 8-12:** [Center for Executive Education NSLS Workshop](#)

**Aug 15-19:** [JIFX 22-4](#)

**Aug 30- Sept 1:** [Emerging Technology Awareness \(ETA\) for the Warfighter](#)



## EDUCATION:

### Opportunity Knocks...Military Sealift Command Leadership and Development Programs

(DVIDS 19 July 22) ... Bill Mesta

Twenty Military Sealift Command Teammates are currently utilizing MSC leadership and professional development programs to further their careers.

MSC leadership and development programs include a variety of academic, leadership, and professional training programs geared to help build leadership and technical competence while also preparing individuals to overcome the challenges of today and the future.

“MSC offers a myriad of leadership and developmental opportunities to employees. Programs are hosted by Department of Defense, Department of Navy, academic institutions, and non-profit organizations,” said Roslyn Williams, MSC’s Leadership and Developmental Program Coordinator. “There are sixteen MSC Teammates that have started, completed, or are awaiting the start of their Leadership and Developmental Program. Additionally, four Teammates are still enrolled in programs that began in fiscal year 2021.”

The MSC Teammates participating in MSC leadership and development programs are:

MSC Teammates who are currently in programs started in fiscal year 2021:

- Taylor Crider (N9) - Executive Leadership Program
- Nickolas Scott (N7) - ODU Graduate Certificate Public Sector Leadership
- Alexandra Winfree (N7) - ODU Graduate Certificate Public Sector Leadership
- Capt. Douglas Jaarsma (N1) - Royal Fleet Auxiliary Personnel Exchange Program

MSC Teammates who have started, completed or awaiting start of their programs in fiscal year 2022:

- JoEllen Rose (PM1) - Bridging the Gap
- DC Leader Peter Cesarski (N1) - **Naval Postgraduate School** Data Science Certificate Program
- Kendra Dunnington (N02IG) - Navy Capitol Hill Workshop
- Helen Munroe (N8) - Navy Capitol Hill Workshop
- Lorrie Leedy (N10) - Navy Insight into Industry Management Course
- William Lucenta (N10) - Navy Insight into Industry Management Course
- Kurt Oberg (N10) - Navy Insight into Industry Management Course
- Christopher Ward (N10) - Navy Insight into Industry Management Course
- Courtney Woodley (N10) - Navy Insight into Industry Management Course
- Kenneth Brumfiel (N10) - UNC Chapel Hill Understanding the Government-Industry Relationship
- Andy Kallgren (N1) - UNC Chapel Hill Understanding the Government-Industry Relationship
- Captain Axel Steiner (PM9) - UNC Chapel Hill Understanding the Government-Industry Relationship
- Dena Panecaldo (N00L) - Federal Executive Institute Leadership for a Democratic Society
- Benjamin Cost (N7) - Graduate School Executive Potential Program
- Jason Drake (N5) - Graduate School Executive Potential Program
- First Officer Giuliana Rodriguez (N1) - Naval War College

“Due to the increasingly competitive and constantly changing world, continuous professional development is more important now than ever before in achieving career goals,” Williams stated. “Successful professional tend to seek out advanced professional training opportunities to expand their knowledge base, keep current on industry trends, and increase networking interactions; which may lead to future career growth and satisfaction. The benefits of attending any of the leadership and development programs are limitless.”



Some of the MSC leadership and development programs available for teammates include Defense Senior Leader Development Program (DSLDP), Executive Leadership Development Program (ELDP), Federal Executive Institute Leadership for a Democratic Society (FEI LDS), Dwight D. Eisenhower School (ES) Master of Science in National Resource Strategy, Old Dominion University Graduate Certificate in Public Sector Leadership (ODU GCPSL), **Naval Postgraduate School** Data Science Certificate (NPS DSC), Naval War College (NWC) Intermediate or Senior Level Program, Graduate School Executive Leadership Program (ELP), Graduate School Executive Potential Program (EPP) and the MSC Civilian Rotation Training Opportunity (CRTO) Program.

“Professional development leads to employees learning new skills, new ideas and perspectives, and shared learning experiences,” according to Mike Kishbaugh, MSC Human Resource Training Administration Branch Director. “Employees generally experience increased job satisfaction, improved productivity, and potentially career advancement; thus creating a win-win for both the employee and the command.”

At the beginning of each fiscal year, MSC sends out all-hands emails announcing leadership and development program opportunities. These emails contain a summary description of the more than 19 opportunities supported each year, program application due dates, points of contact and also the MSC Portal link where additional information is posted. Complete applications should be submitted to the appropriate email box in advance of the listed due dates.

The MSC Intranet portal is a great place to find information about the leadership and development program opportunities at:

<https://navy.deps.mil/sites/msc/Intranet/Training/SitePages/home.aspx>

In addition, the MSC’s Human Resource Training Administration Team is available to answer questions and help individuals apply for programs.

The MSC Human Resource Training Administration Team includes:

Mike Kishbaugh – Human Resource Training Administration Branch Director  
Roslyn Williams – Leadership and Developmental Program Coordinator  
Michele Sandifer – Civilian Rotation Training Opportunity Program Coordinator  
Steven Cole – Individual Development Program Coordinator

Kishbaugh, concluded by advising interested MSC Teammates to, “Target one to two programs and start gathering the required information early. These programs are competitive and have strict application procedures so it pays off to plan ahead and allow enough time to develop a top notch application package with all the required documents. If you get selected, you will not be disappointed.”

[DVIDS - News - Opportunity Knocks...Military Sealift Command Leadership and Development Programs \(dvidshub.net\)](https://dvidshub.net/news/2023/07/22/military-sealift-command-leadership-and-development-programs)

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This year’s winners are:

### **Lifetime Achievement Award**

- Darryl A. Scott, USAF (ret), Fellow
- Bill P. McNally, Fellow



### **Innovation in Contracting Award**

- Joint Artificial Intelligence Center/Chief Digital & Artificial Intelligence Office
- Keith William Gibson, CFCM - TryAI
- Bonnie Evangelista - Tradewind

### **Outstanding Fellow Award**

- Faye Orick, CPCM, Fellow

### **Fellow Award**

- Michael Freeland, CFCM
- Ashley McGrew Harden
- Jessica Johnson, CPCM, CFCM
- Dr. Dolores Kuchina-Musina, CFCM
- Laura C. Kunkle, CPCM, CFCM
- Michael Levy
- Kameke Mitchell
- Wanda Wallace, CPCM, CFCM
- Charlie E. Williams, Jr.

### **Best Contract Management Magazine Article Award**

- Kate Vitasek, "Back to Basics for Strategic Sourcing and Outsourcing"

### **Contract Management Education Award**

- Naval Post Graduate School

### **Elmer B. Staats Contracting Professional Excellence Award**

- Tammy L. Smith

The National Contract Management Association (NCMA), which was founded in 1959 and is the world's leading association in the field of contract management. The organization, which has over 18,000 members, is dedicated to the professional growth and educational advancement of procurement and acquisition personnel worldwide. NCMA strives to serve and inform the profession and industry it represents and to offer opportunities for the open exchange of ideas in neutral forums. To find out more, please visit [www.ncmahq.org](http://www.ncmahq.org).

[NCMA Announces Program Year 2023 Award Recipients \(yahoo.com\)](https://www.yahoo.com/news/ncma-announces-program-year-2023-award-110000000.html)

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## **RESEARCH:**

### **NPS Researchers Explore the Impact of Sea Ice Change in Bering Sea**

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The Bering Sea is the most productive ground fishery in the world, particularly for salmon, halibut and shellfish. About half of U.S. fish and shellfish come from that area and the fishing industry is the main driver of jobs in and around the Aleutian Islands. The freezing and melting of sea ice in the area heavily impacts the primary productivity, which is the bottom of the marine food chain.



Research Associate Professor Jaclyn Kinney, Research Professor Wieslaw Maslowski, and Research Assistant Professor Younjoo Lee – all in the Naval Postgraduate School (NPS) Department of Oceanography – looked at how sea ice variability in the Bering Sea over the last several decades might impact the cold pool and marine primary production. Their research, sponsored by the U.S. Department of Energy and National Science Foundation, was published in PLOS One in April 2022.

The Arctic region has become increasingly critical to U.S. security interests, and particularly to the U.S. Navy, over the past several years. Dual purpose research in predicting sea ice, and the impact of its fluctuations, is critical for navigation and understanding how systems operate.

On top of that, less sea ice also means more tourism and commercial activity in the area, potentially, which could also result in the need for more patrols, and searches and rescues. And how sea ice impacts the food supply and local jobs could dictate the economic and cultural stability of the region. All of these factors are recognized as potential challenges in the Department of the Navy's Strategic Blueprint for the Arctic, released in 2021, underscoring the importance for oceanography team's detailed study.

The NPS research team looked specifically at the very cold water near the sea floor (less than 2°C) that forms on the shelf each winter, which is called a cold pool. It's formed by the cooling and sinking of surface water. Vertical mixing caused by salt being expelled from water as it freezes into sea ice during the autumn and winter, a process called brine rejection, increases the density of the cold pool water. This cold, salty, dense water sinks down to the bottom, forming its own marine habitat unique from other parts of the Bering Sea by the summer.

Sea ice melt is usually the first cause of water stratification during spring, but when there is not as much sea ice, stratification is mainly caused by the sun warming up surface water later in the year. Stratification is necessary for primary productivity, in the form of phytoplankton, to bloom.

"If there's a lot of primary production in the water early, then the zooplankton are still very small and they're not able to consume much of it," Kinney explains. "So what happens is those phytoplankton cells will eventually settle out to the bottom, feeding the benthic community. That's good for walrus and gray whales, which feed on the benthic community."

But this means the pelagic community doesn't get as much food, she says. If primary production starts later in the season, which is what happens when there's less sea ice, it becomes a pelagic-dominated ecosystem because the zooplankton have the opportunity to get bigger. These fluctuations can heavily impact fish and shellfish populations from year to year.

Maintaining these habitat distinctions is important for maintaining the food chain for the region. Some marine species that live in the cold pool include the snow crab and Arctic cod.

Kinney fell in love with the complexity of the Bering Sea in the early 2000s, and it was actually her first region of research.

"It's really important for food sustainability and for people's livelihoods," Kinney says. "I used to study invertebrates that live in the bottom sediment, and that was what I started out doing back in the early 2000s. So I've just always really loved that region."

Naturally, she keeps up with the research coming out of the region. She recently came across a paper observing the cold pool shrinking northward.

"The reduction of the cold pool means that we have a whole new potential for a brand new ecosystem moving in," Kinney explains. "If we have much warmer water, then we're going to get these southerly fish species moving North, and that's going to push the Arctic species even further to the north."

How large and wide the cold pool is varies drastically from year to year, and the researchers wanted to figure out how this variability relates to sea ice variability. They used the Regional Arctic System Model (RASM), developed at NPS, to examine the variability of the cold pool's extent and distribution to see how its size and shape is impacted by the sea ice cover. The researchers developed statistical calculations of past sea ice cover conditions in the Bering Sea from 1980 to 2018. RASM can simulate critical physical processes, feedbacks, and their impact on the Arctic climate system using several coupled models and components, including the atmosphere, ocean, sea ice, biogeochemistry, and land hydrology.

The RASM confirmed a direct correlation between the extent of sea ice and the cold pool, showing a smaller cold pool during times with less sea ice cover. In general, the researchers found that in July 2018, the cold pool was only 31 percent of what its mean was from 1980 to 2018. The researchers point to a



lack of sea ice, caused by strong winds out of the south, restricting the typical southward expansion of sea ice towards the shelf break.

And as for how this impacts the food chain, the researchers found that years with low amounts of sea ice were followed by a later diatom bloom, and vice versa. These results follow the Oscillating Control Hypothesis, originally developed in 2002, which states that early ice retreat will lead to a late bloom, while late ice retreat leads to an early bloom.

Diatoms are a common type of phytoplankton that forms the base of the food chain. Diatom levels can be measured by looking at how much chlorophyll-a is found in an area, which can be done via satellite, as well as in models. A comparison of the chlorophyll-a trends in the northern Bering Sea between satellite data and RASM showed similar results, which forms the basis of another study Kinney coauthored, published in the journal *Oceanography* in May 2022. RASM results also provided insight into the mechanism responsible for the changes by showing the variability in nitrate concentration (a variable not measured by satellite.)

The researchers were excited to see RASM's results mirror real-life observations. But the cold pool retreat they observed in 2018 continued to be a problem in 2019 and 2020, which also saw unusually high temperatures, resulting in less sea ice. Then 2021 saw a major snow crab population collapse, likely due to a reduction of their preferred cold pool habitat. Without the cold pool, the snow crab's predators are able to eat juvenile crabs more easily. This population collapse bankrupted communities that rely on snow crabs to make a living. The Central Bering Sea Fisherman's Association expects to see about a 65% drop in revenue due to necessary crab quota cuts.

"We want to know, as scientists, is this reduction of the cold pool the new normal? Are we going to see sea ice come back? And then how will the population reestablish to the south if we do see the sea ice come back to normal?" Kinney said.

She points out that this isn't the first time the area has seen a diminished cold pool, the last one being in 2001. It did recover, with sea ice prevalence peaking in 2012. But sea ice extent has declined since then. Bering Sea sea ice is hard to predict because it starts from scratch each year, resigned to the whims of seasonal and interannual variability in addition to the larger climatic trends.

"There's no straightforward linear relationship for ice retreating," Maslowski explains. But the team is encouraged by how well RASM was able to predict the sea ice trends so far, and see it as a powerful tool to help the Navy glance into the future of the Bering Sea.

[NPS Researchers Explore the Impact of Sea Ice Change in Bering Sea - Naval Postgraduate School](#)  
[NPS Researchers Explore the Impact of Sea Ice Change in Bering Sea > United States Navy > News-Stories](#)

[NPS Researchers Explore Impact Of Sea Ice Change In Bering Sea – Eurasia Review](#)

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The **Naval Postgraduate School**, which led the research effort on the technology, helped to install the printer on the *Essex* and run diagnostic tests on July 8 and July 9 in the midst of the Navy's Rim of the Pacific exercise, according to a Navy press release.

The installation of the 3D printer on the *Essex* offers a new approach for the service to fulfill its demand for needed supplies as the other services remain on their own paths to fully leveraging 3D printing technology.

During its testing and evaluation at sea, the new printer, capable of fabricating and printing aluminum, will produce various shipboard items.





“Having this printer aboard will essentially accelerate, enhance and increase our warfighting readiness,” Lt. Cmdr. Nicolas Batista, the Aircraft Intermediate Maintenance Department officer aboard the Essex, said in a statement.

“The capabilities of the 3D printer will enable Essex to become more self-sufficient,” Batista said, adding that commonly needed components like fuel adapters, bleed air valves, valve covers and more may now be created on the ship.

The Naval Postgraduate School worked with the printing company Xerox to receive its own 3D printer around the same time the Department of Defense released its first additive manufacturing strategy, better known as 3D printing, in January 2021.

Professors Garth Hobson and Emre Gunduz from the Naval Postgraduate School are helping to lead the school’s work on additive manufacturing, including through a consortium for research and education.

They shared in an interview with Military Times that while the machines currently only produce a specific aluminum alloy, they are working to expand that. Within the next year they are also looking to establish a certificate program on additive manufacturing for service members and civilians at DoD to learn about the increasingly prominent technology.

The Navy also previously worked with a 3D printer on the Essex back in 2014, according to Breaking Defense.

The 3D printing is nothing new, however, to the Navy or other services.

Earlier in 2022 the Navy discussed pairing suppliers with additive manufacturing companies to boost available parts.

In May, the Air Force invested in its own 3D printer to produce spare parts for its Strategic Automated Command Control System and the Army’s Combat Capabilities Development Command began a project to 3D print everything “from food to shelter to weapons.” Even the White House discussed the importance of additive manufacturing this past May towards improving supply chain issues in the military and beyond.

With the printer now installed on the Essex, sailors on board must be trained in how to properly use the equipment.

Aviation Structural Mechanic 3rd Class Roxanne Barrera said, “I was honored when my chain of command asked me to be the first Sailor aboard USS Essex to get the training for this 3D printer. I just want to learn how to operate it and share [the knowledge] with other people.”

Batista stated that the commander of the Naval Air Force, U.S. Pacific Fleet, and the commander of the Naval Air Systems Command also have begun efforts to establish a work center solely designed for the 3D printing concept.

[Navy ship utilizes 3D printing out at sea \(navytimes.com\)](https://www.navytimes.com)

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## **Black Americans’ Unemployment Payments Are 11 Percent Lower Than White Americans’ Due to Uneven State Policies**

(Observer 21 July 22) ... Courtney Vinopal

A National Bureau of Economic Research study calculates the racial gap in unemployment benefits, with Black applicants receiving payments that are lower on average than white applicants.

Researchers have long documented racial inequities in the U.S. welfare system. Unemployment insurance, in particular, disadvantages Black Americans, as states with more Black workers have less generous unemployment benefits.

A new study by researchers at the University of Copenhagen, University of Pennsylvania, and the **Naval Postgraduate School** calculates just how much Black workers have missed out on unemployment payments compared to white workers due to uneven state policies.

Between 2002 and 2017, Black Americans received \$92 less on average each week from unemployment programs than white Americans, according to the paper, which was published in the



National Bureau of Economic Research and hasn't yet been peer-reviewed. Though some of the gap can be attributed to differences in work history, which is a factor in determining unemployment eligibility, the researchers found uneven state policies alone caused Black applicants to receive \$31 less in weekly payments on average than white applicants.

Less generous unemployment rules perpetuate racial gap

Because unemployment benefits are determined at the state level, the payments jobless Americans receive from the government can vary greatly depending on where they live. Using audit data from the Labor Department, the researchers show states with the highest proportion of Black Americans claiming unemployment—including Mississippi, Alabama, and Georgia—also have some of the lowest caps on benefit payments in the country. Massachusetts, Oregon, and Pennsylvania have some of the most generous policies, measured by the maximum amount a claimant can receive compared to their average prior wage.

The paper finds the “replacement rate” of Black unemployed workers’ benefits—that is, the ratio of payments they received compared to their prior wages—was 18 percent lower than what their white counterparts received. Differences in state unemployment policies alone accounted for an eight percent gap between the replacement rate of Black and white claimants.

The researchers argue adopting “more harmonized” unemployment rules across states could help “ensure that Black and white claimants with the same work history receive more similar insurance against job loss.”

Black Americans have long been unemployed at higher rates than white Americans, a gap that was exacerbated during the pandemic. While the federal government expanded unemployment benefits from March 2020 to September 2021, Black applicants were still less likely than white applicants to report receiving unemployment insurance during that time, according to a Government Accountability Office report. Though advocates have been pushing Congress to adopt federal standards to address racial disparities in unemployment benefits, such measures didn't make it into the social spending bill passed by the House of Representatives in November.

[Black Americans' Unemployment Payments Are 11 Percent Lower Than White Americans' Due to Uneven State Policies | Observer](#)

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## STUDENTS:

### **The Pacific Deterrence Initiative: Defending Guam Is Paramount**

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No region is more important to today's great power competition than the Indo-Pacific. For more than two decades, while the United States was rightly consumed with wars in the Middle East, China and Russia have expanded their military capabilities significantly throughout the region. Today, the People's Liberation Army Navy (PLAN) greatly outnumbers the U.S. Seventh Fleet in the western Pacific and the U.S. Indo-Pacific Command (IndoPaCom) is focused on how best to position the forces it has against China.

The Pentagon's Pacific Deterrence Initiative (PDI) in the fiscal year 2023 budget responds to congressional legislation to invest more in Pacific security. This essay examines the proposals within the PDI and how they address IndoPacom's priorities, evolving Chinese military capabilities, and the importance of U.S. deterrence in the region.

### **IndoPacom's Priority—Guam**

The PDI directly addresses the immediate security concerns in the Indo-Pacific. The PDI is “focused on boosting missile defense, intelligence, surveillance and reconnaissance programs, infrastructure,



prepositioned equipment and munitions, logistics, training, and exercises, as well as enhancing the capabilities of allies.”

Because of its strategic location, Guam is a lynchpin of U.S. military power in the Indo-Pacific. Far from the Chinese mainland, Guam is outside the range of the PLA’s short-range missiles but is still close enough to provide logistical support to U.S. forces operating in the East and South China Seas. In reviewing the organic military capability positioned on Guam, defense policy analyst Patty-Jane Geller noted that “Anderson AFB hosts F-22 fighter squadrons, as well as the Bomber Task Force, enabling significant air-based power projection from the island.” In addition, Geller stated that “the Navy has access to Guam’s deep water strategic port, which enables repair and supply of the Pacific fleet—including aircraft carriers—during a conflict with China.” As such, defending the island will preserve its vital logistical capability.

According to former IndoPaCom commander, Admiral Phil Davidson, “The most important action the Pentagon can take to increase U.S. military capability in the Pacific is to introduce a 360-degree, persistent, air and missile defense capability on Guam.” To address this primary concern, Congress appropriated \$77 million for a “permanent and persistent land-based integrated air and missile defense system and associated weapon delivery system on Guam.” Admiral Davidson’s testimony clearly identifies the defense of Guam as the top priority in the Indo-Pacific. However, before Guam can serve as a springboard for military offensives, it must be adequately defended from preemptive strikes.

Despite being at the top of Indo-PaCom’s list, Guam has become increasingly threatened as Chinese advances in long-range strike capabilities are now capable of reaching the island. According to the current IndoPaCom commander, Admiral John Aquilino, China’s military buildup “may embolden [them] to unilaterally change the status quo before our forces may be able to deliver an effective response.” Admiral Aquilino’s testimony emphasizes how China desires to shift the balance of military power in the Indo-Pacific in its favor, evident in the PLA’s development of long-range strike capabilities. Furthermore, China recently released a propaganda video displaying its long-range bombers attacking Andersen Air Force Base.

The PDI’s timing is critical. In China’s arsenal are “nuclear-capable Intermediate Range Ballistic Missiles (IRBMs) and Medium Range Ballistic Missiles (MRBMs) capable of long-range precision attacks on both land and large to medium sized maritime targets . . . able to target U.S. bases in Guam and U.S. aircraft carriers operating in the Western Pacific.” Consequently, the PDI’s permanently based integrated air- and missile-defense system on Guam is more vital now than ever before. The PDI will fortify the U.S. defense posture against evolving PLA threats.

In addition to China’s advancement in long-range precision-strike weapons, the PLA has also improved its C4ISR capabilities. Recent C4ISR upgrades to China’s nuclear long-range Xian H-6K bombers have “enabled long-range nuclear precision strike missions—a capacity that since the Cold War only the [United States], Russia, and France have possessed.” This creates a crucial need for reinforced U.S. reconnaissance infrastructure to improve early detection of a possible or imminent attack. To address this potential gap in capabilities, the PDI appropriates \$378,557,000 for “intelligence, surveillance, and reconnaissance (ISR) capability to enhance indications and warnings, sensor packages, [and] the development of future ISR platforms.” Through investing in future ISR platforms and missile-defense capabilities, the PDI will enable U.S. forces to deter future aggression.

In addition to defending the military assets on Guam, there is a moral imperative to advocating for the island’s defense. As a military stronghold and U.S. territory, Guam is home to “170,000 U.S. citizens . . . as well as over 20,000 American servicemembers, civilians, contractors, and their families.” Guam is a part of the U.S. homeland. As such, the defense of Guam is a matter of both homeland security and homeland defense. The PDI recognizes this moral imperative, and its implementation will best position U.S. forces to act on it.

## Deterrence Matters

A permanent missile-defense system on Guam would be an effective deterrent against Chinese aggression. Missile-defense systems “convince an adversary that its attack will fail—or that the costs of overcoming missile defense systems would outweigh the benefits of success.” Establishing such a system



on Guam is one way to send a message to China that the United States is adequately postured to defend its critical military stronghold in the Indo-Pacific.

Another essential component of deterring Chinese aggression is the persistent and overt display of U.S. forces working with regional allies and partners. Allied military exercises “can be designed to shape a potential adversary’s perceptions of how US and allied forces would fight. . . . Another application might be to ‘prove’ to the opponent something it already believes is true about U.S. and allied forces, plans, or strategy. Exercises designed with these secondary purposes in mind can be particularly useful for reinforcing deterrent credibility.” Persistent operations with allies and partners establish credibility and counter regional Chinese aggression and influence. The PDI increases funding for international military exercises with regional allies and partners. It authorizes \$50 million to “modernize communications architecture and systems with allies and partners in the Indo-Pacific region, including exercise planning, execution, and associated equipment purchasing costs.”

Implementing the PDI is critical to preparing U.S. forces should confrontation between China and the United States escalate to war. The PDI’s proposals adequately address the IndoPaCom commander’s priorities. Most important, the PDI prioritizes a missile-defense system that sufficiently defends the U.S. territory of Guam. In today’s era of great power competition, where geopolitical tensions between the U.S. and China are at a constant flashpoint, the PDI solidifies the Indo-Pacom area of responsibility as the priority theater of operations for the foreseeable future.

Lieutenant Magno is a 2015 graduate of the U.S. Naval Academy. A career surface warfare officer, he is currently a student at the **Naval Postgraduate School** studying security studies (homeland security and defense) and pursuing a certificate in great power competition. He has served on board the USS Wayne E. Meyer (DDG-108) in San Diego, California, and the USS Patriot (MCM-7) in Sasebo, Japan. Most recently, he was the flag lieutenant to Commander, Expeditionary Strike Group 7 in Okinawa, Japan.

[The Pacific Deterrence Initiative: Defending Guam Is Paramount | Proceedings - July 2022 Vol. 148/7/1,433 \(usni.org\)](#)

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## FACULTY:

### **Azerbaijan Eager to Supply More Gas to Europe in Russia's Stead**

*(Nikkei Asia 19 July 22) ... Sinan Tavsan*

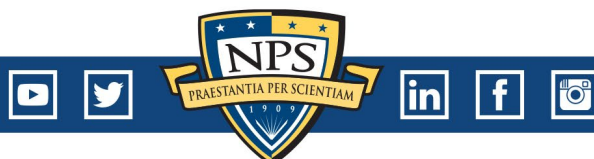
The European Union on Monday signed a memorandum of understanding with Azerbaijan, aiming to double gas imports from the energy-rich South Caucasus country as the 27-member bloc seeks to reduce dependence on Russia.

While the newly agreed upon 20 billion cu. meters of gas a year pales in comparison to the 155 bcm the EU imported from Russia last year, the memorandum is likely to lead to investment in pipelines and gas development that could make Azerbaijan a key European energy source.

The gas will be delivered through the Southern Gas Corridor, which connects the gas fields in the Caspian Sea and Italy via three separate pipelines. Asian companies like Sumitomo Corp., Mizuho Bank, MUFG Bank, Sumitomo Mitsui Banking Corporation, Korea Development Bank and Bank of China have contributed to the corridor, and any expansion may bring more business their way.

The parties aspire to bring "at least 20 billion cu. meters of gas annually by 2027," from Azerbaijan to the EU via the Southern Gas Corridor, in accordance with commercial viability and market demand, according to the agreement signed on Monday in Baku by European Commission President Ursula von der Leyen and Azerbaijan President Ilham Aliyev.

Azerbaijan gas began to reach Europe when the Trans Adriatic Pipeline became operational at the end of 2020. Running from the Turkey-Greece border to Italy, via Albania and the Adriatic Sea, the pipeline was the last leg of the Southern Gas Corridor.



The other two legs of the near 3,500 km Southern Gas Corridor are the Trans Anatolian Natural Gas Pipeline, which runs through Turkey, and the South Caucasus Pipeline, which runs from Turkey to Georgia to Azerbaijan.

In the Caspian Sea, the giant Shah Deniz gas field is expected to reach peak production of 26 bcm at the end of this year. With the Trans-Adriatic Pipeline's annual capacity at 10 bcm, further investment would be needed to boost gas transfers.

The EU's 155 bcm worth of gas imports from Russia in 2021 constituted about 40% of the bloc's total natural gas consumption. Since Russia's invasion of Ukraine in February, EU officials have been scrambling to secure gas from alternative sources, including the U.S., Israel, Qatar, Egypt and Azerbaijan -- both via pipelines and as liquefied natural gas.

Brenda Shaffer, a professor at the U.S. **Naval Postgraduate School** and an expert on Caspian energy, said although Azerbaijan gas alone cannot solve the EU's gas dependence on Russia, an additional 10 bcm would mean a lot for Southern Europe and Western Balkan states such as Greece, Bulgaria and Italy. "Italy is weathering the current crisis better than many others in Europe, due to dedicated supplies arriving from the Southern Gas Corridor," she said.

Azerbaijan is "really taking a stand in time when Europe is in need," yet the country is conscious of its geography, bordering both Russia and Iran, she noted.

"Azerbaijan aspires for strong integration with the West through energy, investments and trade, yet does not see it as a zero-sum game," Shaffer said. Azerbaijan has started to accelerate the development of several untapped gas fields, she added.

Shaffer said the fact that the memorandum encourages financing toward the Southern Gas Corridor expansion is significant because public funding institutions have halted funds to natural gas projects.

If institutions such as the European Bank for Reconstruction and Development and the European Investment Bank were to offer new funding, it would set an important precedent, she said.

Von der Leyen on Monday stressed that this agreement does more than tap Azerbaijan's fossil fuels. "Azerbaijan has a tremendous potential in renewable energy," she said, particularly in offshore wind and green hydrogen. "Today, with our [memorandum], we are laying the ground for solid cooperation in that area. Gradually, Azerbaijan will evolve from being a fossil fuel supplier to becoming a very reliable and prominent renewable energy partner to the European Union."

The Commission head opened her statement by thanking Aliyev for "stepping up and supporting the European Union."

Russian gas supplies to Europe were already unreliable even before the Ukraine invasion, she said. "The EU has therefore decided to diversify away from Russia and to turn towards more reliable, trustworthy partners."

"Issues of energy security today are more important than ever before," Aliyev said, adding that new gas field development and the development of offshore wind energy in the Caspian Sea will free up more natural gas for exports.

Shaffer calculates that Azerbaijan's renewable-energy investments may free up some 2 to 3 bcm of gas for exports in two to three years' time.

Von der Leyen said the EU has its eyes on even more.

"The European Union wants to work with Azerbaijan to build connections with Central Asia and beyond," she said. "We follow with great interest the discussions and the ideas about trans-Caspian connections."

Those ideas, Shaffer said, might include tapping Central Asian energy resources, such as Turkmenistan's gas, and transporting goods from the region via Azerbaijan.

Umud Shokri, a Washington-based foreign policy analyst and author of "U.S. Energy Diplomacy in the Caspian Sea Basin," said that pipeline expansion can take two to three years to realize. Furthermore, once new gas is found in the Caspian Basin and is ready to be pumped into the expanded pipeline, it would need long-term buyers with contracts spanning a minimum of 10 to 15 years to be sustainable.

While noting that Central Asian states such as Turkmenistan, Kazakhstan and Uzbekistan have huge gas and oil potential, Shokri said the main problem is that the region lacks the infrastructure needed to integrate the neighbors. That investment could come from the EU and the U.S., but the latter lost interest



in such investment after the shale revolution and in light of developments in countries such as Afghanistan, he said.

[Azerbaijan eager to supply more gas to Europe in Russia's stead - Nikkei Asia](#)

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## ALUMNI:

### Las Vegas Fire & Rescue Chief

*(Las Vegas Nevada 20 July 22)*

*(Firehouse 21 July 22)*

Las Vegas City Council unanimously ratified Fernando Gray as the city's new chief of the Las Vegas Fire & Rescue Department. Gray has more than 25 years of fire services experience and was selected for the director position by City Manager Jorge Cervantes.

Gray will lead the city's Las Vegas Fire & Rescue Department, which provides the public with fire suppression, emergency medical services (EMS) and fire prevention and education programs. The department has a class one rating from the Insurance Services Office, the highest possible standard.

Gray started his career as a firefighter/paramedic in his hometown of Dallas, Texas. During his 21 years with the department, he served in nearly every position, including driver engineer, lieutenant, budget and administration officer, EMS shift duty officer, captain, training officer, battalion chief, deputy chief, assistant fire chief of operations and retired as the chief of staff (second in command).

Following his career in Dallas, Gray was appointed fire chief for the city of Aurora, Colorado, in 2017 and served in that position for five years before being chosen to lead Las Vegas Fire & Rescue.

Gray is a staunch supporter of continuing education and constantly researches methods to improve his capability to serve. He is a graduate of the National Fire Academy's Executive Fire Officer Program and has a Masters of Public Administration from Sam Houston State University.

He graduated with a bachelor's degree in Criminal Science from Texas A&M University. In addition, he completed the International Association of Fire Chiefs Executive Development Institute and obtained the prestigious Chief Fire Officer Designation from the Center for Public Safety Excellence.

Gray is also a proud alumnus of both the **Naval Postgraduate School's** Executive Leaders Program and the Harvard Kennedy School's Senior Executives Program.

[Las Vegas Fire & Rescue Chief \(lasvegasnevada.gov\)](#)

[Gray Named Chief of Las Vegas Fire & Rescue | Firehouse](#)

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### JBAB Master Sergeant Wins 12 Outstanding Airmen of the Year Award

*(DVIDS 20 July 22)* ... Airman 1<sup>st</sup> Class Anna SMith

Each year, the Air Force honors their most exceptional with one of the service's highest accolades: being named as one of the 12 Outstanding Airmen of the Year. This year, the Airman chosen to represent Air Force District of Washington was one of Joint Base Anacostia-Bolling's own, U.S. Air Force Master Sgt. Kade Forrester.

Forrester was previously with the 11th Contracting Squadron at JBAB, and was the first enlisted member assigned to 11th CONS when the 11th Wing was re-activated in 2020. During his time here, he wore many hats. At one point in time, he simultaneously held the position of Section Chief for both the Plans and Programs Flight and the Infrastructure Flight.

Now, Forrester is a graduate student at the **Naval Postgraduate School** in Monterey, California. This very feat contributes to his exceptionalism, as he was one of the first-ever enlisted personnel selected for



this program, which is usually tailored toward officers. Upon completion, he will have a master's degree in acquisition and contract management.

"It is a hugely gratifying opportunity to learn from these commissioned leaders from the Department of Defense, State Department and Allied Nations," said Forrester, "but more rewarding to show the abilities of the enlisted corps."

Forrester's character, skill and effort to help stand up 11th CONS and the 11th WG certainly showed as he was nominated and won several awards at the Air Force and Major Command levels in the last year. Some of these include the Air Force "Contracting Ninja" award and AFDW Innovator of the Year. The epitome of who he is as a leader, follower, teammate and Airman, is ultimately recognized with his selection for 12 Outstanding Airmen of the Year.

"It is truly rewarding to get the reassurance that I did a few things right," said Forrester. "I am my hardest critic, and always reassess actions that I believe were not my true potential." While he might not have achieved everything he was reaching for in 2021, Forrester said he is thankful he was able to make an impact on the mission at JBAB.

"This accomplishment placed my mind somewhat at ease, that even though I didn't get it all right in 2021, I was doing my part to develop our Airmen, transition JBAB to full operating capability and ready the force for challenges ahead," said Forrester.

Forrester's ambition and flame within to succeed were self-lit, but continuously fueled by his leadership and teammates' encouragement and feedback along the way.

"Many leaders took the time to invest in me and I'm happy to demonstrate that their investment was worthwhile," said Forrester. "My name was called, but it was my team that got me here." The individuals that saw his potential, helped him develop as an Airman, gave him feedback when he made mistakes and helped him to make corrections are the reason he has accomplished many things in his career, he said.

Those that helped him reach this milestone extend beyond the squadron he works in to members from all over JBAB.

"It wasn't just the team in 11th CONS that contributed to this accomplishment," said Chief Master Sgt. Dean Garrison, 11th CONS senior enlisted leader. "The entire Flock contributed and that is something everyone in the 11th Wing should be extremely proud of."

The 12 OAY award nomination package submitted for Forrester had many bullets describing how he contributed to the mission at 11th CONS and the 11th Wing, as well as other details highlighting the desired qualities of an outstanding Airman. Garrison says there is more to Forrester than who he is "on the clock."

"I was more impressed by things that didn't make it onto his award package," said Garrison. "He helped his Airmen move apartments, delivered food to those who were sick and always stayed connected with the team during COVID. It really set the stage for a great culture in the unit." When Forrester initially joined the military, it was to earn a college degree. After accomplishing that goal, he decided to stay in and make a career out of the Air Force. During this time, he said he has built a family not just of blood, but of teammates as well.

"I would not have been able to accomplish all that I have in my 12 years in the Air Force without the love and support of my wife and the motivation I receive from my daughters," said Forrester. "I stayed in for the camaraderie and the ability to help others. Seeing my wingmen succeed is the greatest accomplishment of my career."

Forrester is no longer assigned to JBAB, but his achievements here will make a lasting impact. He helped piece together the puzzle of standing up a squadron and a wing. That puzzle will be completed once the base reaches full operating capability this October.

"I'm extremely proud of what Master Sgt. Forrester has accomplished in being named one of the 12 Outstanding Airmen of the Year," said Col. Catherine Logan, commander of Joint Base Anacostia-Bolling and 11th WG. "It speaks volumes about his character and the enormous contributions he made to not only the 11th WG and JBAB, but AFDW and the Air Force as a whole. Although he recently moved from the Flock, once a member of the Flock, always a member of the Flock, and we are so proud to serve with him."



The 11th CONS team is responsible for providing world-class contracting services to the 11th Wing that allows for tenant units to enable effective and efficient mission and installation operations. This means awarding contracts, or budgets, to units and entities in order to complete their mission. “This award is the accomplishment of the men and women at 11th CONS, The Jedi of JBAB!” said Forrester.

[DVIDS - News - JBAB master sergeant wins 12 Outstanding Airmen of the Year award \(dvidshub.net\)](#)

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## **HPU Family Establishes the McFerren Family Endowed Scholarship**

*(High Point University 22 July 22)*

High Point University parents Shannon and Michael McFerren of Bel Air, Maryland, recently established the McFerren Family Endowment to support the Access to Innovators program, which allows students the opportunity to connect with industry leaders for networking, mentorship, career and professional development.

“I am honored that many in our HPU community, like the McFerrens, believe in our mission, vision and desire to help our students in their pursuit of education,” says HPU President Dr. Nido Qubein. “Named endowments and scholarships allow us the resources to provide financial assistance to students in perpetuity, while also ensuring they are able to remain focused and fully engaged in the classroom.”

Shannon and Michael have twin daughters, Macy and Madison, who are both HPU students. Macy is a rising senior studio art major student with a minor in entrepreneurship. Focusing on ceramics, Macy hopes to open a pottery studio after she graduates. One of her favorite aspects of HPU’s curriculum is the emphasis put on experiential, hands-on learning. Madison is a rising senior marketing major with a minor in fashion merchandising. For Madison, attending HPU was a childhood goal. At just 8 years old, she heard about a speech Dr. Qubein gave at a Chick-fil-A conference their parents attended. From then on, HPU was her dream university. Now as a student, she takes full advantage of the various programs and activities offered to build her resume of skills and abilities.

“At HPU, there is excellence in everything you see,” says Michael McFerren. “The university’s commitment to experiential learning and reputation as the premier life skills university exudes this excellence. As an HPU family, we see this through the implementation and continuation of the Access to Innovators program. With the support of endowed funds, like ours, we hope to see the program grow and blossom over the years as more students benefit from such an extraordinary initiative.”

Michael is the owner and operator of 3 Strands, LLC, the restaurant operating corporation he founded to oversee the operation of his three Chick-fil-A franchises. In 1987, Michael graduated from Allegheny College with a Bachelor of Science in physics. After college, he joined the United States Navy and graduated from the **Naval Postgraduate School** in 1995 with a master’s in operations analysis. Michael was a pilot for 12 years, and in 2000, joined the Military Recruiting Institute as a recruiter. In 2004, he and his family became owners of their first Chick-fil-A franchise. The McFerrens own restaurants in Abingdon, Maryland, and Aberdeen, Maryland, and have a location on the campus of the University of Delaware in Newark, Delaware. Shannon graduated from the Southeast Center for Photographic Studies in 1991 with an Associate of Science in photography. In 2001, she pursued her life’s passion by opening her own photography company, Shannon McFerren Photography. In addition to running her business, Shannon works as the accounts payable manager for 3 Strands, LLC.

[HPU Family Establishes the McFerren Family Endowed Scholarship | High Point University](#)

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## **IFL Science Meets: NASA Engineer Joan Melendez Misner On Inspiring The Next Generation's Involvement In STEM**

*(IFLScience 22 July 22) ... Johannes Van Zijl*

Joan Melendez Misner is an Integration Engineer at NASA working on space & asteroid planetary defense missions. Her work includes sending a helicopter to Titan (Dragonfly), a spacecraft to Europa (Europa Clipper), and crashing a spacecraft into an asteroid (DART).

Joan volunteers throughout the community and is fully involved with STEM Outreach Programs, most notably, @PASSAGEscience – a program aimed to bring STEM education to Latin America.

For Joan, being a change maker and inspiring the next generation is the goal. As a first-generation graduate, she strives to increase representation in underrepresented communities, encouraging people to pursue STEM careers through mentoring, social media, and nonprofits. Joan is also a musician, an avid tennis player, and is currently getting her Private Pilot License.

IFLScience spoke with Joan to learn more.

### **What did it take to get here?**

What didn't it take (lol).

I started off by getting a dual bachelor's in Chemical Engineering and Chemistry. While I was in college, I started interning for the Department of Defense (as a Pathways Intern), specifically at Naval Air Systems Command (NAVAIR) working on biofuel qualifications for the Navy. During my time, I qualified alternative sourced fuels made from sugar, corn, etc. for use in both Naval aviation and sea trials.

Once I graduated, I was hired full-time at NAVAIR and got to work as a Fuel Systems Engineer for Navy jets, aerial refueling, and a propulsion engineer. I gained valuable knowledge in test engineering, systems engineering, and reliability. While I was working full-time, I also earned my master's degree in Systems Engineering from **Naval Postgraduate School**.

After eight years in the aviation industry, I made the move to the space industry because I knew that I eventually wanted to work on space hardware. I started working for Blue Origin as a Launch Integration Engineer working on their New Glenn orbital rocket. As an integration engineer, my role was to work with the design engineers and ensure that the systems verified its intent. I worked on everything from the launch pad, (LC-36), fluid systems, drone ship, and communications to system safety.

However, after one year at Blue Origin, NASA gave me an opportunity to interview for the role I have now. It was a hard decision to leave Blue, but NASA has always been my dream. And after applying 13 times, it felt like it was finally my time. And I was right. Now I work for the Launch Services Program, which helps launch scientific missions to space.

### **Imagine you've met yourself as a teenager at a careers fair, how would you describe what you do to your former self?**

You help launch scientific missions to space that help explore both our planet and our universe. The work that you do now is so important. You even helped launch a mission that tests Earth's planetary defense against potential asteroids that may head our way. You are a Planetary Defender!

What's the most common misconception about your line of work?

The most common misconception, which I also fell victim to, is that I thought that you had to be a perfect 4.0 GPA student to work at NASA. This misconception stopped me from applying to be an intern at NASA, since my GPA was around a 3.2.

The one thing I want to be remembered as is someone who inspires those to reach for the stars. Don't let your GPA hold you back. We can teach you how to do your job. Finish your degree and work hard along the way.



### **Proudest moment on the job?**

The Proudest professional moment of my career at NASA was when I launched my first mission, which ended up being one of the coolest missions I have ever been part of (DART). To be part of a team that is testing our planet's defense capabilities from a future asteroid that may have a trajectory towards Earth feels good.

My proudest moment at NASA that does not revolve around missions is my participation in outreach. I love talking to students about what I do, and how I got there, and inspiring them to pursue their dreams.

### **Memorable misstep/hairiest moment on the job?**

Before I share my misstep on the job, I want to say that we all make mistakes. As an intern, I was terrified of making mistakes or asking too many questions. I thought that my coworkers or team would think I was not "smart" enough to have the position. And boy was I wrong. You are supposed to ask questions on the job, that is how you learn. If you make a mistake, do not cover it up. Bring up the mistake to your mentor or coworker that is helping you, and together you will figure out the next steps. I learned a lot more from my mistakes than my successes. Just a little piece of advice.

Ok, now on to my most memorable mistake I had on the job. While I was an intern for NAVAIR, I oversaw a weeklong test to see how much bacteria there was in a fuel. I completely forgot to check the data throughout the week, which was an important element of the project, and instead remembered about the experiment 2 weeks after it was supposed to conclude. The number of bacteria was overwhelming, and since it went over the timeframe of the scope of the experiment, AND I didn't collect any data to compare, the test could not be used. So, I had to restart the test and unfortunately had to be late in reporting the results. It was a learning experience for me because it taught me how to manage my time better, and I learned to set email reminders to check on the experiment, that way I would never forget to collect the data again. To this day, I set due date reminders on my calendar to remind me of specific tasks.

### **What do you never leave the house without/what's your most treasured piece of kit?**

I never leave home without my Sony camera, my Apple AirPods, and my space-themed backpack. I love exploring new places, so I want to make sure I can capture any content I want to share with my audience.

I also have a lucky patch that I carry around with me in my Harry Potter wallet (Slytherin by the way). The patch is a SpaceX Cargo patch, which was the very first mission I was in mission control working as an engineer.

What's one piece of advice you'd give to someone wanting to embark on the same career?

The first one is going to sound a little cliché, but don't give up. If working in STEM is your dream, don't get discouraged if you fail a class, or if you have to study harder than everyone else. Keep on pushing towards finishing your degree and working hard to land your dream job. My favorite quote is "Failure is not the opposite of success; it is part of every success story." (Ariana Huffington)

My other piece of advice is to "Network to Get Work". I went to a NASA networking event and after touring a NASA facility and connecting with NASA engineers, I stayed in touch with them. They guided me by providing me with upcoming job requisitions and gave me résumé tips and tricks. I truly believe that networking can help you get on the right path, which is another reason I am so open on social media. If you need resume help, I got you. If you need someone to give career advice, I got you. A lot of people helped me along the way to help me get to where I am, and I want to extend a helping hand to anyone who was in my position several years ago.

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