



Naval Postgraduate School
Foundation
& Alumni Association

MISSION IMPACT REPORT



2023

**ACCELERATE IDEAS.
EMPOWER LEADERS.
MAXIMIZE IMPACT.**

CONTENT

THE HONORABLE DAN QUAYLE, 44TH VICE PRESIDENT

"If you're interested in the future, interested in technology, interested in preventing war, you better be interested in NPS, because that's exactly what we do."

We train good, young, smart men and women to come up with solutions, come up with ideas, and to provide the technology that we're going to need to defend our country in the future."



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'We are at war,' Israel's lead

Three Putin allies warn of imminent 'world war' against West

Moscow, Russia • Edited By: Vikrant Singh • Updated: Oct 20, 2023, 04:19 PM IST

China is using the world's largest online disinformation operation against Americans, a CNN review finds

By David O'Sullivan, Curt Devine and Allison Gordon, CNN
© 2023 CNN Inc. All rights reserved. Updated 8:58 PM EST, Mon November 13, 2023

ADM MICHAEL MULLEN, U.S. NAVY (RET)
17TH CHAIRMAN JOINT CHIEFS OF STAFF

"There is no other place that provides the kind of study and focus on military problems that are so relevant to what's going on in the world than here at the Naval Postgraduate School."



- CHAIR**
ADVISORY COUNCIL
 ADM Michael Mullen, USN (Ret)
- CHAIR**
BOARD OF TRUSTEES
 Hank Plain
- CEO & PRESIDENT**
 Rich Patterson
- VICE PRESIDENT**
 Col Todd Lyons, USMC (Ret)

The work the Naval Postgraduate School is doing is more important now than ever. In the current state of the world, our nation faces an unprecedented confluence of threats, ranging from volatile conflicts in the Middle East, assertive actions by the People's Republic of China and Russia, to relentless cyber attacks and energy shortages.

Adversaries, armed with sophisticated technologies, actively undermine U.S. interests and national security, thrusting us into a heightened state of global conflict. In this volatile landscape, the Naval Postgraduate School emerges as a beacon of innovation, serving as a key factor in preparing military leaders to navigate these complexities and safeguard our nation's interests and citizens.

Recognizing that national security is a shared responsibility, the Naval Postgraduate School Foundation brings together the Department of Defense, industry, academia, and our community. The Foundation fosters an innovation ecosystem, bridging the gap between private sector ingenuity and the specific needs of the DOD. Together, NPS and its Foundation are a dynamic force, ready to transform ideas into scalable solutions, fortify military capabilities, and ensure readiness for the uncertainties of tomorrow.

RICH PATTERSON
CEO & PRESIDENT

The Washington Post
 Twin crises in Ukraine, Israel fuel talk of World War III
 NEW YORK, SUNDAY, OCTOBER 8, 2023 \$6.00

New York Times
 TANTS STAGE ATTACK ON ISRAEL
 Assault Met With Big Strikes on Gaza Cities
 Americans Feel More Threat from China Now Than in past Three Decades

Other headlines visible:
 Israel 'at war' after Hamas attack
 U.S. Is Not Ready for Growing Nuclear Threat From Russia and China, Report Says
 U.S. 'at war' after Hamas attack
 U.S. 'at war' after Hamas attack
 U.S. 'at war' after Hamas attack

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WHO WE ARE

NAVAL POSTGRADUATE SCHOOL FOUNDATION

At the Naval Postgraduate School Foundation, we recognize the urgent need to accelerate our pace of innovation to deter and defeat evolving threats.

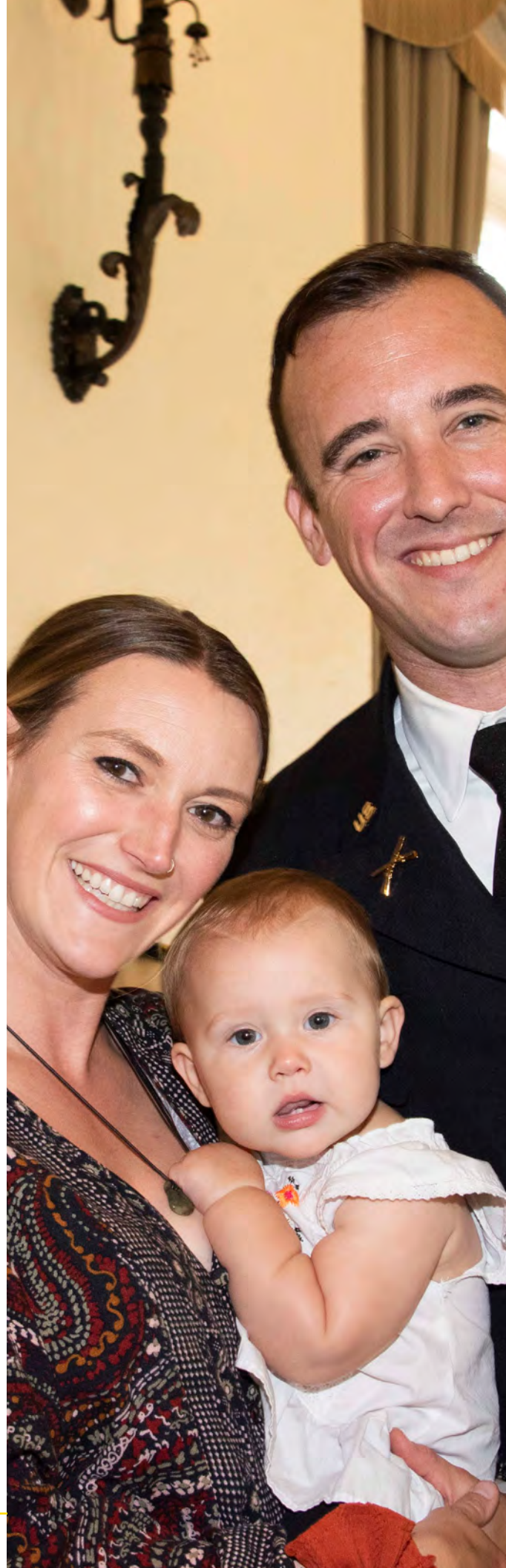
Both NPS and the NPS Foundation are actively engaged in initiatives that drive a culture of innovation resonating far beyond campus and influencing the broader national security community.

Bureaucracy, budget constraints, and other barriers impede the swift adoption of innovative solutions within DOD organizations. The NPS Foundation steps in with its flexible and immediate funding to fill critical research gaps and support proof of concept projects. We leverage strategic public-private partnerships to bridge the gap between private sector ingenuity and the specific needs of the DOD.

The NPS Foundation serves as a powerful catalyst, bringing together the brightest minds from academia, industry, and the military, creating a collaborative environment, and establishing the necessary infrastructure to empower these exceptional individuals to develop groundbreaking solutions that address our most critical national security challenges.

Similar to civilian colleges and universities, NPS needs private support to sustain and expand key programs that advance quality of life for students and faculty, engage the community and advance innovative research.

Unlike with traditional universities, your donation to the Naval Postgraduate School Foundation is a direct investment in strengthening national security and supporting the active-duty students serving and protecting our nation.



04

ABOUT NAVAL POSTGRADUATE SCHOOL

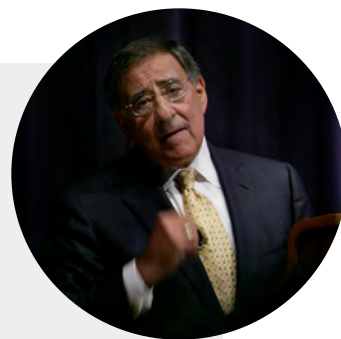
NPS plays a key role in developing military leaders to identify, understand and prevent conflicts.

By bringing together a powerful combination of active-duty students, world class educators, and innovative technology partners, NPS cultivates the intelligence and expertise needed to proactively deter conflicts and safeguard lives.

- The student body consists of officers and noncommissioned officers from the six U.S. armed services, officers from over 50 partner countries, and civilian federal and state employees.
- More than 2,000 resident and distance learning degree students are enrolled annually with hundreds more earning certificates in STEM subjects such as AI, autonomy and data science.
- More than 1 in 5 flag officers (admirals and generals) currently active in the U.S. Military are graduates of NPS. These over 170 top-level military leaders are currently stationed across the globe using the knowledge they gained at NPS to be more informed and effective decision makers.
- NPS' location makes it a natural nexus between DOD, Silicon Valley, the West Coast innovation ecosystem, and civilian research universities.
- NPS has over 100 R&D partnerships with industry and academia in defense, climate, technology and more.
- More than 1,000 defense-focused applied research thesis and capstone projects are delivered by NPS students every year.
- NPS is the only organization that is a member of the Naval Education Enterprise and the Navy Research and Development Establishment, meaning that research and discoveries made at NPS can directly influence product development, policy changes and acquisition decisions for the U.S. Navy.

THE HON. LEON PANETTA, 23RD SECRETARY OF DEFENSE

"We've developed some of the most advanced military capability of any country in the world. But one thing I've learned is that no matter how sophisticated that weaponry is, if you don't have educated, trained personnel to be able to handle that, not worth much."



What the Naval Postgraduate School does is provide is does is provide that education to our military so that they're aware of the kind of challenges we're going to face in technology in the 21st century."



NPS INSTITUTIONAL PRIORITIES

Each year, NPS outlines its institutional priorities. These priorities reveal where the NPS Foundation will concentrate our support to the school for the coming year. While priorities change from year to year, the mission does not.

Together, we are enhancing quality of life for students and their families, strengthening our military capability, and funding essential programs to hasten innovation in our Department of Defense.

SECRETARY OF THE NAVY, MR. CARLOS DEL TORO

“We are supporting the construction of a purposefully-designed facility to house the NIC at the Naval Postgraduate School, providing a space for collaboration, defense-focused experimentation, and demonstration of operational use cases to ensure the right technology is evolving... The NIC will enhance and accelerate the innovation process at NPS by driving ‘ideas to impact,’ bringing research concepts out of the lab and into the field faster.”



NAVAL INNOVATION CENTER AT NPS

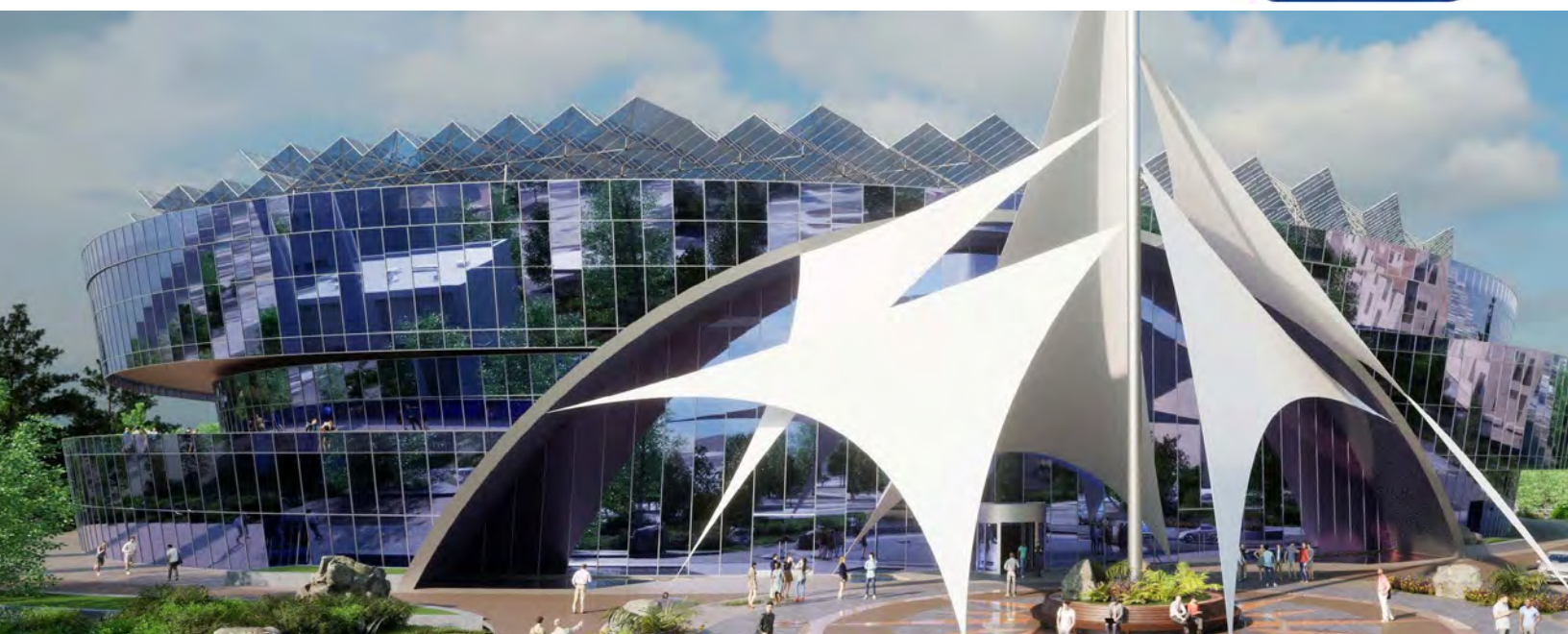
The Naval Postgraduate School must evolve as the threats evolve. The Secretary of the Navy, Mr. Carlos Del Toro, introduced the Naval Innovation Center (NIC) at NPS in an announcement on December 9, 2022. The initiative signifies a groundbreaking approach to military education with a strong emphasis on fostering innovation and experimentation.

The center will be a vital resource for warfighting development commands, facilitating collaborations between the DOD and key players in the defense industry, the technology sector and academia.

The Naval Postgraduate School Foundation has supported the NIC at NPS initiative since its inception, investing over \$1.75 Million in the planning and development of the NIC vision and original schematic designs.

Our commitment extends throughout the entire life cycle of the project, from design and development to construction and outfitting, as dedicated partners to NPS and the Navy in realizing the full potential of the Naval Innovation Center.

NPSFOUNDATION.ORG/NIC-AT-NPS



Deliberately designed to prioritize collaboration, hands-on experimentation, advanced analytics, autonomous technologies, increasingly classified work and immersive demonstrations, the Naval Innovation Center at the Naval Postgraduate School will be optimized to create solutions with direct relevance to the Fleet and Force, while sustaining long-term thinking for the future of the Navy and broader Department of Defense.

As research projects become more applied and classified, the Naval Innovation Center will enable students, faculty and partners to build virtually, prototype physically, and test and iterate rapidly, in order to deliver innovative solutions.

The facility will include, both classified and unclassified:

- Immersion Domes
- System Simulation Labs
- Rapid Prototyping Labs
- Surge and Response Labs
- Project Assembly Labs
- Collaboratories and Flexible Lab Spaces
- Telepresence pods
- Auditorium and conference areas



ARTIST RENDERING

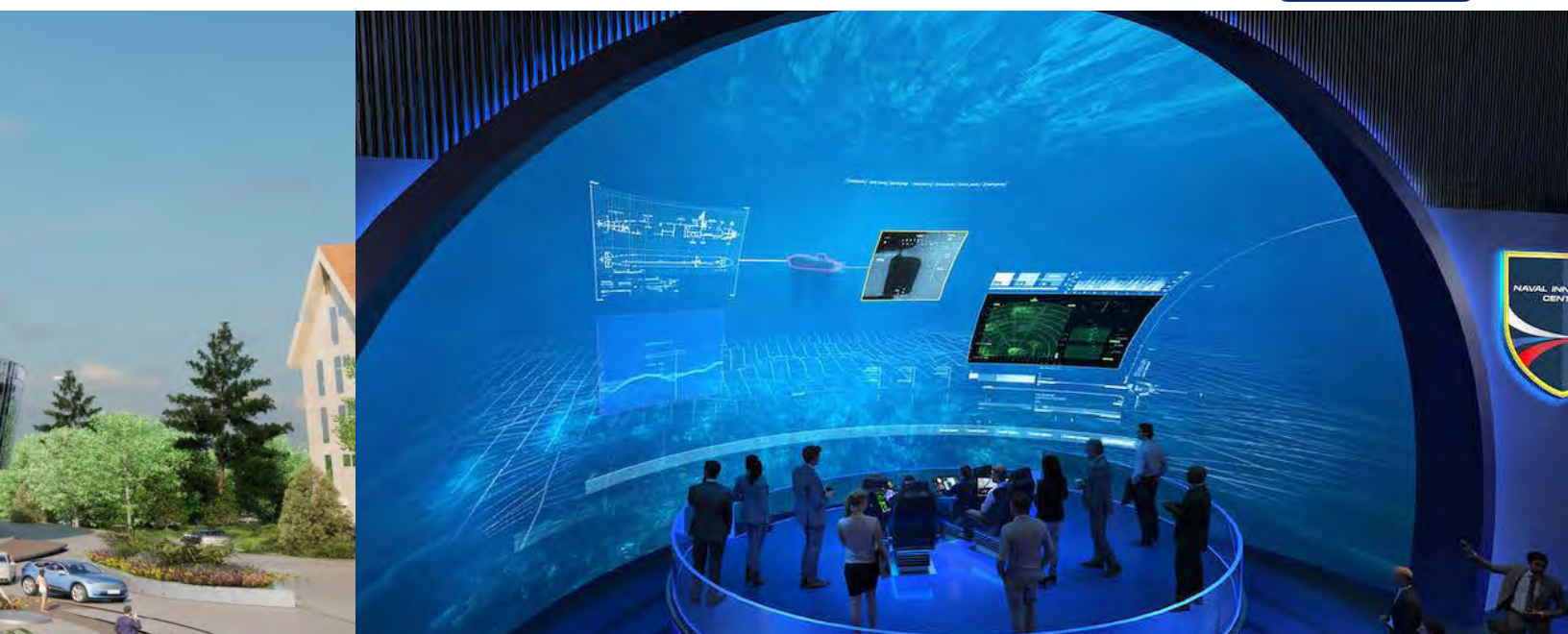
ADM ERIC T. OLSON, U.S. NAVY (RET) 8TH COMMANDER, U.S. SOCOM

"The technology changes over time. The agendas, the purposes, the visions of the threat change over time.

And it's up to a place like the Naval Postgraduate School to evolve as the threats evolve so that we can stay with or ahead of them as they do."



The information contained herein, including, without limitation, any and all architectural conceptual renderings, specifications, features, facilities, dimensions, and amenities depicted, or otherwise described, does not represent the Department of the Navy, and is subject to change. The NPS Foundation is a non-federal entity. It is not part of the DOD or any of its components and has no governmental status.



07 INNOVATION ECOSYSTEM

The U.S. must remain on the forefront of technological innovation to maintain a competitive edge in the rapidly evolving global security landscape.

With a focus on building strong corporate partnerships, supporting leadership positions who can drive innovation from within, and supporting state-of-the-art facilities and infrastructure, the NPS Foundation empowers NPS to become a powerful innovation accelerator.

Innovation Exploration

The NPS Foundation coordinates and funds trips for NPS Foundation and NPS leadership to visit world-class industry and academic facilities, providing opportunities for NPS faculty and staff to immerse themselves in innovative, best-in-class environments and envision the art of the possible for NPS. Previously visited sites include Microsoft's Innovation Campus, Apple's Apple Park, Anduril Industries, Applied Minds Inc, UCI – Beall Applied Innovation Center, USC – Institute for Creative Technologies, Booz Allen Hamilton's Helix, Johns Hopkins Applied Physics Laboratory, and more.

Symposium and Conference Support

The NPS Foundation significantly enhances prestigious events like the Naval Space Summit, NATO M&S Annual Meeting, and Acquisition Research Symposium at NPS. Sponsorship of social events, meals and tech demonstrations heightens the quality of these gatherings, bolstering NPS' reputation. This facilitates knowledge dissemination, networking and collaboration among experts, academia and industry. The events serve as platforms to showcase NPS research, attracting partners and sponsors and contributing to the broader innovation ecosystem. Hosting such high-profile events positions NPS as a central hub for collaboration, fosters an innovative culture and connects like-minded individuals and organizations.



DR. KEVIN SMITH, VICE PROVOST FOR RESEARCH

"Private industry has been outpacing the DON/DOD investments in S&T for decades. We need to be able to partner with them, and the great brain-trust that exists within other academic institutions and research labs, in order to advance the state-of-the-art beyond what NPS or the DON is capable of doing on its own."





A collaborative research tool to enable
innovators in the national security ecosystem

ATHENA FOR PARTNERS

Athena for Partners is the latest development in our Athena initiative. Athena is a collaborative research tool that enables researchers, sponsors and leaders across the Department of Defense to discover, connect, collaborate and deliver innovative solutions. We see Athena as the virtual instantiation of the Naval Innovation Center at NPS.

Athena's core strength lies in its ability to make a wide range of research accessible, including current studies, ongoing projects, and to rapidly connect researchers, engineers, warfighters and industry partners.

This problem-solving approach promotes a continuous learning culture, motivating individuals to seek out new ideas and technologies for more innovative approaches. Athena for Partners takes collaboration to the next level by leveraging external expertise and industry insights for effective solution development, extending collaboration beyond the DOD.

Athena for Partners includes research data from NPS, Marine Corps University and NPS Foundation industry partners, as well as an aggregation of public news sources. The platform remains dynamic, with new data and sources continually being added. Marine Corps students from across the Naval Education Enterprise are among the first users.

This version represents the continued evolution of Athena, which originally began as an NPS student project and early prototype. Built on Microsoft Azure and Microsoft Teams, the platform prioritizes security and scalability, ensuring that researchers, sponsors and leaders across the Naval Education Enterprise and DOD can easily access and query information stored in various databases.

Visit athena4partners.org if you would like to request an account. If you are interested in providing data or supporting Athena for Partners, contact athena@npsfoundation.org.

The NPS Foundation has contributed over \$1 million dollars and thousands of hours into the development and implementation of Athena. Athena will remain a priority initiative and cornerstone of the innovation ecosystem at NPS and across the DOD.



ATHENA4PARTNERS.ORG

CORPORATE PARTNERSHIPS



Need for Partnerships

NPS and the Department of Defense need industry partners to deliver solutions at scale. The research and solutions originating from NPS demand the scale and resources typically exceeding the capacity of academia and government alone. Industry partners play a crucial role by providing invaluable resources, expertise and infrastructure to hasten the conversion of innovative concepts into practical, scalable solutions.

NPS Foundation's Role

The Naval Postgraduate School Foundation supports NPS partnerships by funding research, collaborative events and tech scouting. The Foundation plays a crucial role in actively reaching out to potential partners, a function that goes beyond the reach of NPS alone. Our goal is to find the best potential partners in critical technology areas and identify opportunities to transform ideas from some of our nation's brightest into scalable solutions for the DOD, Department of Homeland Security and our allies.

Why Partner With NPS?

Partnering with the Naval Postgraduate School isn't just a collaboration; it's a strategic investment in advancing the capabilities of the DOD and related agencies. Corporate partners gain exclusive access to cutting-edge research and expertise from our multidisciplinary faculty and mid-career military students, providing immediate applications across defense, industry, energy, climate and more.

AT&T – CORPORATE PARTNER OF THE YEAR 2023

“We’re proud to collaborate with the Naval Postgraduate School to explore the many ways in which 5G can usher in a wave of innovation that benefits the Department of Defense and across the public and private sectors.”

- Lance Spencer, Client Executive Vice President – Defense, AT&T Public Sector



Todd Lyons presenting the CPY award to Lance Spencer at the 2023 America's Heroes Charity Golf Tournament

Corporate Partner of the Year Award

Presented annually by the NPS Foundation, this award honors a corporate partner demonstrating sustained innovation and support for education, research and applied solutions at NPS. This acknowledgment celebrates exemplary contributions and stimulates increased corporate engagement, fostering a competitive environment conducive to joint research, technology transfer and industry-driven projects. The CPY Award attracts corporate entities to increase NPS engagement, leading to expanded opportunities for collaborative advancements in defense, industry, technology, climate and beyond.

Rapid Innovation Design Challenge

The NPS Foundation actively collaborates with industry partners, NPS faculty and students and community supporters to orchestrate an annual Rapid Design Challenge. By actively engaging high school teams with NPS and industry mentors, the Rapid Design Challenge provides a unique platform for developing innovative solutions to real-world challenges. The Foundation assists in developing the challenge, coordinating logistics and communications, and sponsors prizes for winning teams. This collaborative initiative nurtures the next generation of scientists and engineers and fosters innovative thinking on application of science and technology to address real-world challenges.

Tech Displays & Demo Room

Within Dudley Knox Library, the NPS Foundation curates and maintains the Tech Demo Room, showcasing industry displays. This space serves as a tangible representation of collaborative research opportunities for NPS students and faculty. By providing a platform for the exhibition of innovative technologies and research projects, the Foundation cultivates an environment of curiosity and exploration among students, faculty and industry partners.

Industry Tech Days

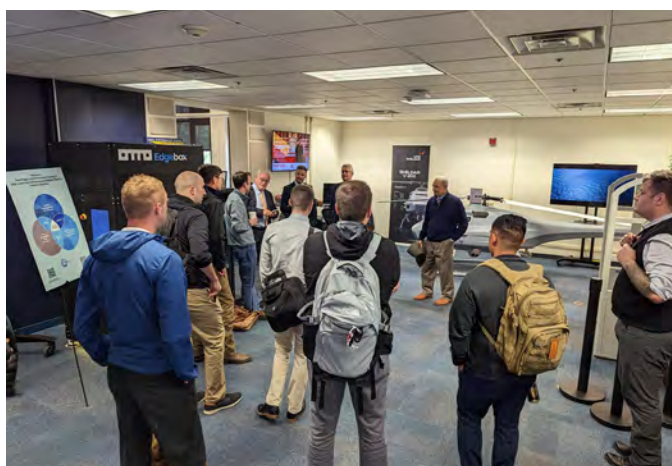
Tech Day events, held by the NPS Foundation, offer a unique opportunity for corporate partners to spotlight their company's technology and products in technology area-specific events within the NPS community. The Foundation's role in organizing such events creates opportunities for collaborative exploration and knowledge exchange and emphasizes the necessity of global partnerships in achieving common goals in defense and technology.

Highlight: NATO Modeling & Simulation Tech Day

The NATO Modeling & Simulation Tech Day marked the inaugural event in a series of Foundation-hosted Industry Tech Days. With over 200 professionals in attendance, including representatives from NPS, the wider Department of Defense, industry and NATO, the event provided a dynamic platform for tech demonstrations and insightful panel sessions. The diverse array of participating companies, such as Microsoft, NVIDIA, Lockheed Martin and others, showcased industry's commitment to advancing modeling and simulation capabilities. This event strengthened existing relationships between key stakeholders in the field and promoted engaging discussions between NPS, the Department of Defense, NATO and industry innovators.



Microsoft presenting during the NPS Foundation's NATO M&S Tech Day



UMS Skeldar demos their v-200 UAV System in the Tech Demo Room.



AT&T demos robotic dog at NPS

ALUMNI ASSOCIATION



NPS Alumni gather in National Harbor, MD during the alumni event at the Sea-Air-Space conference.

2023 EVENTS

**SAN DIEGO, CA
ORLANDO, FL
DAYTON, OH
ANNAPOLIS, MD
ARLINGTON, VA
NATIONAL HARBOR, MD
WASHINGTON DC
SINGAPORE**

ALUMNI ASSOCIATION

The Alumni Association connects an elite group of nearly 50,000 Naval Postgraduate School Alumni who are leading and innovating in their fields worldwide.



Members of NPS Computer Science Class of '91 tours NPS as a part of an Alumni Reunion.

Since the school's inception, NPS alumni have been involved in the most critical conversations on defense strategy, national security, and interoperability with our allies. In 2018, the Naval Postgraduate School Foundation revived the Naval Postgraduate School's Alumni Association to cultivate global camaraderie amongst graduates and continued engagement with NPS.



Benefits of Membership

- Join NPS Connect (npsalumni.com), our secure and interactive platform for connecting one-on-one with alumni, current students and faculty as a mentor or mentee.
- Reconnect with your classmates on the NPS campus! The Alumni Association is here to support and help coordinate your class reunion in Monterey.
- Participate in hosted receptions and happy hours, regional alumni-led meetups, professional development opportunities, panels and webinars.

CLUBS & CAMPUS EVENTS

Clubs and events are open to all Foundation members including students and their families, NPS faculty and staff, and local community members.

CHESS
CYBER
CYCLING
DRONE RACING
FLYING
GOLF
INTERNATIONAL
MAKERS

OUTDOORS
RUNNING
SAILING
SKYDIVING
SOCCER
VEHICLE
WINE



CAPT. TOM STANLEY, U.S. ARMY, MS IN DEFENSE ANALYSIS '22

"The Foundation and the Skydiving Club, like all of the clubs, has been a great mechanism and provided a lot of opportunities to meet people who have similar interests. The skydiving community is small and the folks that are in the club now will absolutely run into each other again down the road."

When You Join an NPS Club, You..

- Connect with other students and their families and Foundation community members.
- Foster a community around a shared interest.
- Enjoy time away from the high-stress, demanding duty of serving our country.
- Give back to the community and attend exclusive events with volunteer opportunities.
- Participate in races, hikes, bike rides, conventions, golf tournaments, etc. at a discounted rate.

The Foundation hosts on campus and local events including Quarterly Welcome Events to welcome incoming students and their families, provides support for graduation and award ceremonies, and hosts happy hours and receptions in conjunction with distinguished visitor visits, Secretary of the Navy Guest Lectures and Alumni Hall of Fame induction ceremonies.

The NPS Foundation hosted a Drones & Donuts event for students, faculty, community members and their families to fly beginner-friendly quadcopter drones in the Naval Postgraduate School's Center for Autonomous Vehicle Research (CAVR) lab.



GET INVOLVED

MAKE A DONATION

Make your tax-deductible donation.

By Check: Write check payable to
Naval Postgraduate School Foundation. Mail to
NPSF, P.O. Box 8626, Monterey, CA 93943.

By Credit Card, Venmo or Paypal: Visit
npsfoundation.org/give

By Phone: Call 831-656-2339

**YOUR DONATION IS
DIRECT INVESTMENT
IN THE LEADERS AND
TECHNOLOGIES THAT
KEEP OUR NATION SAFE.**



HANK PLAIN, GENERAL PARTNER, LIGHTSTONE VENTURES

"As a civilian, I recognize the challenges that our military faces and the investment that the community can make in the school, whether it's a local community or the national community, can have an enormous impact on our ability to avoid wars as well as to fight and successfully win wars.

The impact here with the combination of world class faculty and the students, who bring their operational experiences from the field to bear on the problems that face our country, is truly remarkable."

CORPORATE SPONSORSHIP

Immerse your corporation in the collaborative innovation ecosystem of the Naval Postgraduate School. The NPS Foundation's Corporate Partnerships program opens avenues for strategic alliances in critical technology areas.

Connect with Todd Lyons, Vice President, at tlyons@npsfoundation.org to explore transformative opportunities.

PLANNED GIVING

When you make a planned gift to the NPS Foundation, whether through bequests, trust, or your retirement plan, you are investing in the cutting-edge research and future leaders that give the United States a decisive advantage over our adversaries, now and into the future. There are a variety of planned giving options that allow you to support the Naval Postgraduate School while meeting your financial goals for you and your family.

COMMUNITY EVENTS

The Naval Postgraduate School Foundation is actively engaged in hosting a variety of events throughout the year in the beautiful Monterey Peninsula and beyond. These events serve as essential avenues for fostering connections, sharing information and raising support for our cause.

Our diverse range of events includes social gatherings, informational sessions, golf tournaments, inspiring guest speakers and fireside chats, and elegant galas, among others.

The goal is to create a vibrant community that shares a passion for the Naval Postgraduate School and our mission.

Speakers at the 2022 and 2023 events include notable figures such as Former Vice President, the Hon. **Dan Quayle**; Former Secretary of Defense, the Hon. **Leon Panetta**; retired Adm. **Robert Natter**, former Commander of U.S. Atlantic Fleet/Fleet Forces Command; retired Adm. **Eric Olson**, former Commander, U.S. Special Operations Command; NFL Hall of Famer **Peyton Manning**; and the voice of CBS sports, **Jim Nantz**. Additionally, Naval Postgraduate School leadership, including NPS President, retired **Vice Adm. Ann Rondeau**, frequently attend and speak at Naval Postgraduate School Foundation events.



NFL Hall of Famer, Peyton Manning sharing stories from on and off the field at Monterey Peninsula Country Club.



NPS President, Ann Rondeau, and 44th Vice President of the U.S. Dan Quayle discuss current events and NPS during a Fireside Chat hosted by Leonard and Peggy Riggs.

AMERICA'S HEROES CHARITY GOLF TOURNAMENT

The Annual America's Heroes Charity Golf Tournament, at Monterey Peninsula Country Club, supports the Naval Postgraduate School Foundation and seven partner charities that provide critical support to service members

and their families, including families of fallen, during times of need. In its 18 years, the America's Heroes Charity Golf Tournament has raised over \$19M in support of America's Heroes. Contact colson@npsfoundation.org for more information.

2023 Charities



Naval
Postgraduate
School
Foundation



NAVY SEAL
FOUNDATION
Having us serve. Supporting the families.



IMPACT

At the Naval Postgraduate School, groundbreaking research is a constant, driving force. These examples represent a continuous flow of innovative projects shaping the future of national security.

Maj. **Michael Whitaker**, an NPS alumnus, is spearheading the implementation of Conditions-Based Maintenance Plus (CBM+), utilizing autonomous sensors, data science, and artificial intelligence for predictive maintenance on major systems. Whitaker's CBM+ initiative, rooted in his NPS research, is set to become an official Program of Record, dramatically advancing Marine Corps maintenance. By shifting from reactive to proactive maintenance, CBM+ enhances equipment availability, minimizes costs, and, with Whitaker's data-driven approach, ensures a more efficient and prepared Marine Corps, positively impacting national security.

Ens. **Kyler Ward** developed an innovative modeling tool for predicting fuel injector operation in a Rotating Detonation Engine. This innovation accelerates aircraft design, reducing design time and enhancing efficiency, directly impacting national security by advancing aviation technologies.

Lt. **Julian Salmon's** research analyzes smart technology trends in East Asia, identifying implications for DOD operational activities. Critical for national security, the research ensures the DOD stays informed and responsive to evolving threats in the technology-driven operational environment of East Asia.

The launch of the Marine Corps Graduate Education Program – Enlisted (MCGEP-E) Pilot at NPS, originating from Gunnery Sgt. **Brandon Smart's** research, resulted in legislation signed by President Biden that expands educational opportunities for enlisted personnel. This impactful initiative contributes to a more skilled and adaptable military force.

(TOP) Free-floating Astrobee robots perform flight maneuvers with support from university ground teams and the astronauts aboard the International Space Station.

(BOTTOM) U.S. Marine Corps Lt. Col. Michael Radigan checks on the 3D printing of a medical cast aboard an MV-22 Osprey from Marine Medium Tiltrotor Squadron (VMM) 164 during a training flight near Twentynine Palms, Calif. The demonstration marked the first successful in-flight demonstration of 3D printing capability in a U.S. military aircraft.

HAPPENING NOW AT NPS

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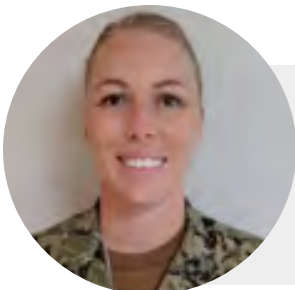
Capt. **Leah Hedgworth** is addressing the Marine Corps' need for improved integration between live and virtual training environments. Hedgworth's research seeks to revolutionize Marine Corps training by providing a low-cost solution for live-virtual integration, ensuring more dynamic and long-term tracking of personnel and assets.

Capt. **Anthony Burns** is pioneering the development of an atomic gyroscope to empower DOD platforms in GPS-denied environments. Burns' technology holds the potential to significantly enhance quantum-based navigation capabilities for DOD platforms, ensuring operational effectiveness even in environments where GPS signals may be compromised by advanced adversarial capabilities.

Lt. **JaMerra Turner** and Lt. **Joanna Cruz**'s thesis, "Supporting Mission Planning with a Persistent Augmented Environment," utilizes augmented reality to convert 2D information into 3D for real-time data visualization on Naval ships. The implementation of their thesis significantly enhances situational awareness across warfare areas, providing real-time data visualization for air, surface, submarine, ballistic, and strike warfare.

An NPS research team, led by Dr. **Nita Shattuck**, is examining the Arctic's impact on crew performance and testing advanced Additive Manufacturing (AM) technologies on the U.S. Coast Guard icebreaker USCGC Healy. Using wearable tech and physiological data, the study aims to enhance shipboard habitability, inform naval policies and improve warfighter readiness, with potential applications for 3D printing of parts at sea.

NPS, collaborating with NASA, pioneered a breakthrough in electric aircraft propulsion (EAP) by developing a reliable direct current (DC) circuit breaker. Led by Dr. **Di Zhang**, the innovative solution addresses a critical barrier in EAP development, providing a practical and impactful advancement for the future of electric propulsion technologies. This breakthrough enhances the Navy's ability to transition to renewable energy and electric propulsion. The DC circuit breaker's practicality and reliability are crucial for making electric aircraft more efficient, lighter, and smaller, aligning with the Navy's goals for cleaner energy, reduced environmental impact and enhanced operational capabilities.



LT. ANGELIA O'TOOLE, U.S. NAVY, MS IN ASTRONAUTICAL ENGINEERING'22

"My research impacts DOD and national security because it allows users, such as warfighters and administrators, to see what's happening in space and what's happening when a spacecraft goes around in its orbit. It gives them that visual of what's actually happening with that spacecraft when it's reaching out and touching another spacecraft. It closes the gap between knowing in your head what it's doing and actually being able to visualize and see what it's doing with your own eyes."

INNOVATION INITIATIVES AT NPS

NPS is at the forefront of fostering innovation with a range of initiatives that underscore its commitment to advancing defense capabilities. At the heart of these efforts is the vision for a Naval Innovation Center at NPS. Each initiative plays a crucial role in supporting the NIC, contributing to a dynamic culture of innovation.

Warfare Innovation Continuum:

The annual Warfare Innovation Continuum (WIC) stands as a testament to NPS' commitment to addressing complex military challenges. Through a human-centered design process, interdisciplinary teams comprising NPS students, faculty, and guests explore concepts, propose ideas and experiment with cutting-edge technologies. This collaborative approach directly feeds into the NIC's vision by fostering an environment where ideas and solutions can be rapidly developed and tested.

Naval Innovation Exchanges:

The Naval Innovation Exchange (NIX) program is made up of multidisciplinary teams, including students, faculty and industry innovators, that focus on developing prototype research solutions in critical technology areas. By identifying opportunities to integrate new technologies into the Fleet and Fleet Marine Force, these teams play a pivotal role in aligning innovation with defense needs—a key objective of the envisioned NIC.

Innovation Capstone Project:

NPS Innovation Capstone Projects are instrumental in connecting theory to practice. These experiential research endeavors allow students to tackle real defense acquisition problems, collaborating directly with sponsors and beneficiaries. This direct engagement ensures the delivery of tangible solutions and aligns with the NIC's goal of transitioning innovations into practical applications within a short timeframe.



Rich Patterson presents the International Student Award for Excellence in Regional or Security Studies to LTC Jochen-Andreas Moos, German Army during the quarterly award ceremony.





Retired Apple Vice President and NPS Foundation Advisory Council member, Gary Wipfler, congratulating graduates after delivering the Spring 2023 commencement address



Joint Interagency Field Experimentation:

The quarterly Joint Interagency Field Experimentation (JIFX) events provide a platform for evaluating emerging technologies and prototypes. By bringing together stakeholders from DOD, U.S. government, and industry, JIFX accelerates early-stage technology development to address national security challenges. This effort aligns with the NIC's objective to enable industry, academia and the DOD to collaborate from concept to capability.

NPS Fleet Engagement Program:

The NPS Fleet Engagement Program plays a vital role in bridging the gap between research demand and supply. By placing NPS students and faculty directly within operational units of the Navy and Marine Corps, the program ensures a direct connection between technological advancements and end-users. This symbiotic relationship supports the NIC's mission by keeping researchers closely attuned to the evolving needs of the defense forces.

Each of these initiatives play an important role in advancing a culture of innovation, from the rapid ideation facilitated by WIC to the tangible solutions produced through Innovation Capstone Projects and the real-world connections forged by the Fleet Engagement Program.

Together, they reinforce NPS' commitment to delivering cutting-edge capabilities and bridging the gap between research and practical application in defense innovation.

MASTER SGT. KADE FORRESTER, U.S. AIR FORCE, MBA IN ACQUISITION AND CONTRACT MANAGEMENT '23

"In the time I have been at NPS, I personally found that this institution strives not to tell you what to think but how to think. This is the opposite of my prior experiences. All my prior training and education taught me what the right answer was, but not why I should care about value or care about the answer. NPS does a great job of relating all the classes and curriculum to operational situations and current events. I view this as a proactive approach, equipping us with the tools we may need in the future versus reactive of equipping us with the tools when the need arises."



FISCAL YEAR 2023 PROGRAM EXPENSES

\$3,870,490

Program Expenses

July 2022 - June 2023

People

Alumni Association	\$66,550
Clubs	\$104,154
Awards	\$100,821
Active Duty, Veteran and Family – Warrior Support	\$538,560

Research

Defense Innovation Fund	\$145,596.
Defense Fellows Scholars	\$240,173

Institution

Naval Innovation Center	\$511,582
Athena	\$537,800
Community Outreach	\$108,000





Total Expenses		July 2022 - June 2023
Programs		\$3,870,490
Operational		\$335,896
Fundraising		\$764,042
Total Expenses		\$4,970,428
Income		July 2022 - June 2023
Individual Donations		\$817,743
Event Income		\$3,529,581
Peacock Shop, Brick, Membership Sales		\$206,392
Total Income		\$4,567,546



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A group of Foundation members visits I Marine Expeditionary Force in Camp Pendleton, California.



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Alumni Association & Membership Manager

Alyssa Olson
Director of Communications

Carly Olson
Director of Development

Karen Woodson
Manager, Peacock Shop

The Hon. Leon Panetta speaks at the annual America's Heroes Charity Golf Tournament, June 2023.





Naval
Postgraduate
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**Foundation
& Alumni
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