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## Naval Postgraduate School 2022 Year in Review

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## NAVAL POSTGRADUATE SCHOOL 2022 YEAR IN REVIEW

In 2022, the Naval Postgraduate School (NPS) witnessed another year of progress and transformation. NPS continued to strive towards its vision “to become the nation’s leading institution for defense higher education and applied research, delivering transformative solutions and innovative leaders for decisive U.S. seapower and national defense.”

NPS delivers defense-focused graduate education to mid-career officers. Upon graduation they return to operational forces with improved critical inquiry and problem-solving skills as demonstrated by mastery of technical subjects and relevant applied research.

**In Graduate Education:** An average of more than 2,100 students were onboard each quarter in NPS master’s and doctoral programs in 2022, with another 550-plus students pursuing certificates, many through distance learning. Additionally, NPS engaged nearly 10,000 more students through the school’s diverse portfolio of executive and professional education courses and workshops.

Graduates of NPS programs during 2022 included [U.S. Navy Lt. Julian Salmon](#), whose classified NPS research thesis analyzed smart technology advancements and trends in East Asia; [Ecuadorian Navy Cmdr. Milton Mendieta](#), whose Operations Research thesis focused on predicting collective violence from coordinated hostile information campaigns; and [U.S. Army Maj. Megan Tucker](#), focused her Defense Analysis research on the challenges and solutions to diversity in the Army’s Special Operations Command (SOC). NPS also forged a new trail with one of the first graduates from the U.S. Space Force, [Maj. John "Mack" Turner](#), who applied his Information Technology management thesis research to data governance for the Joint All Domain Command and Control (JADC2) concept.

Some NPS graduates have applied their theses to great effect in their new assignments. One example is [U.S. Marine Corps Maj. Michael Whitaker](#), whose computer science research in 2019 on autonomous, predictive maintenance is now set to become a program of record for the Marine Corps.

Another alumnus, U.S. Marine Corps Gunnery Sgt. Brandon Smart, helped NPS expand its field of warrior-scholars to incorporate more enlisted personnel. While a student at NPS, Smart – who was recently selected for promotion to first sergeant – briefed a visiting congressional staff delegation about his research in talent management. Smart’s work was so impressive, it became the foundation for the “Strengthening the Force and Fleet Through Enlisted Education Act,” submitted by the House Armed Services Committee. This act, [referred to as the “Smart Act” in honor of its originator](#), was signed into law by President Biden as part of the Fiscal Year 2023 National Defense Authorization Act.

NPS’ longtime [partnership with the Naval War College \(NWC\)](#) continued in 2022, with the 93rd NWC class at NPS graduating in December with Command and Staff diplomas. Since the establishment of the “NWC@NPS” program in 1999, more than 6,620 officers have achieved dual NWC and NPS graduate degrees, accomplishing career milestones as well as an important part of their Joint Professional Military Education (JPME).

Civilian students are also a significant constituency at NPS; nearly a quarter of 2022 NPS graduates were civilian employees from the Department of Defense or federal, state and local government agencies. Command-sponsored workforce development programs at Navy warfare centers and partner labs enable their people to gain naval-relevant graduate education at NPS, which also enriches NPS research and informs shared research and development outcomes. In one example, [Naval Undersea Warfare Center \(NUWC\) Newport, R.I., held a ceremony](#) this year to recognize 113 of their employees who have graduated from varied NPS curricula and flexible, stackable certificate programs since 2019.

**In Research & Innovation:** As a graduate institution, NPS faculty and student research drives the co-discovery and dissemination of new knowledge, solutions to operational problems and the veracity of defense-focused curricula. Every quarter, the team at NPS' Dudley Knox Library prepares and publishes faculty research, graduate theses, dissertations and capstone projects. Hundreds of relevant research solutions, some of which are classified in the [restricted collection](#), are delivered quarterly; the latest collection from September can be [found here](#). These documents are also now indexed by Google and Google Scholar to ensure high visibility to the academic community.

The Secretary of the Navy has made it a priority for the Navy to “innovate and modernize” by strengthening the Department of the Navy’s research partnerships with industry. Just months after collaborating with the U.S. Pacific Fleet to launch the [Nimitz Research Group](#) in support of pressing naval needs, NPS entered into a [Cooperative Research and Development Agreement \(CRADA\) with Microsoft](#), one of 40 CRADAs between NPS and industry leaders. So far, the NPS-Microsoft CRADA developed a prototype collaboration tool named [Athena](#) that connects multiple databases to the NPS research ecosystem, as well as a new digital wargaming concept called Project Voltron, demonstrated at the [Pacific Fleet Commander’s Conference](#) at NPS in August. In addition, a CRADA with Xerox enabled the first self-contained 3D metal printing mobile workshop [which was loaded aboard USS Essex \(LHD 8\)](#) for testing at sea during Exercise Rim of the Pacific (RIMPAC) 2022. These developments and others set a new standard for how the DON can more quickly develop and deliver new capabilities.

Closer to home, NPS’ Undersea Warfare and Physics faculty conducted at-sea experimentation with the University of Washington’s Applied Physics Laboratory (APL) using NPS [G3 Slocum-Webb gliders](#) with towed arrays for a collaborative ONR research program in robotic autonomy. This and other related undersea applied research enhances hybrid force applications of autonomy, AI and acoustics to meet USW objectives through UxV sensing networks and oceanographic models calculating optimal time and energy trajectories.

NPS also expanded its academic partnerships in 2022 to further empower faculty and student collaborations with other leading institutions. In December, [NPS signed an Education Partnership Agreement \(EPA\) with the Stanford Doerr School of Sustainability](#) at a ceremony with the Secretary of the Navy, Carlos Del Toro. This EPA will foster collaborative education and research opportunities addressing climate, sustainability, and energy security issues.

During his [address at the 2022 NPS Fall Quarter graduation](#), Secretary of the Navy Carlos Del Toro announced his intentions to establish a Naval Innovation Center at NPS to “support all of our innovation efforts, from NavalX and the Marine Innovation Unit to the corridors of the Pentagon, as well as to our commanders distributed across the globe.”

**In the Community:** NPS has been a mainstay of the Monterey Peninsula since relocating to the West Coast from the U.S. Naval Academy in 1951. The school’s impact in Monterey has grown not just in economic terms, but in the status of NPS faculty, staff and students as good neighbors, good citizens, and leaders of the local community. As an example, NPS alumnus and current HR specialist Tyller Williamson [was elected as Mayor of Monterey](#) in November.

Many other NPS faculty, staff and students volunteer their time and efforts to speak at civic events, provide honor guards for veteran funerals, support [Veterans Day commemorations](#), and encourage STEM education in the community at events such as the regional [For Inspiration and Recognition of Science and Technology \(FIRST\) Robotics Competitions](#).

In addition to bringing back [International Day](#), 2022 saw the return of NPS’ premier STEM event, [Discovery Day at NPS](#), which enabled thousands of students from around the Monterey Peninsula to visit the NPS campus and learn more about science in the military directly from faculty, students and alumni like U.S. Navy Capt. Victor Glover, one of [44 NPS graduates who have become astronauts](#).

Additionally, NPS students and faculty volunteered as tutors, and helped to promote naval STEM and internships at the Miramar Air Show in San Diego and Fleet Week in San Francisco.

Quite a few of the [NPS summer intern program selectees](#) were once middle schoolers who participated in Discovery Day. As interns, they are some of the area's most promising high school students, 260 to date, earning a chance to work with NPS faculty on real research projects. Another 201 NPS interns have come from Hartnell community college and 167 to date earned Navy college scholarships, advancing efforts to maintain a robust workforce in the STEM disciplines.

**In Recognition:** While NPS exists to meet naval-unique and national security needs, the school continues to rank well against peer institutions and receive recognition for academic excellence. In 2022, NPS not only earned redesignation as a National Center of Excellence in Cybersecurity Defense, but was selected by U.S. Cyber Command to [join its Academic Engagement Network](#) (AEN). NPS was also [accepted into the University Consortium for Applied Hypersonics](#), a network of academia, industry and laboratories advancing defense R&D in hypersonics, one of 14 DOD critical technology areas.

On a Navy-wide level, NPS' Information Technology and Communications Services (ITACS) department [received the prestigious DON CIO IT Excellence "Defend" Award](#) for their pioneering work in evaluating an automated tool for cyber "red teaming" to always ensure network operational readiness.

The Provost's Faculty Awards Ceremony was held in-person for first time since 2019 and recognized promotions and tenure. Other significant faculty achievements in 2022, included:

- Dr. [David Ortiz-Suslow was selected](#) for the Office of Naval Research's Young Investigator Program.
- [Dr. Michael T. Montgomery was awarded](#) the Royal Meteorological Society Buchan Prize.
- Defense Analysis Chair [Dr. Carter Malkasian received the Gold Award](#) for best book from the Council on Foreign Relations.
- [Dr. Paul Lester was recognized and published](#) in MIT Sloan Management Review for results from the largest, long-term well-being study of high-performers ever done – nearly 1 million people.
- [U.S. Navy Cmdr. Thor Martinsen pursued research](#) on secure communications at the University of Bergen in Norway as a Fulbright Scholar recipient.
- Operations Research Professor [Dr. Sam Buttrey reached the finals of the "Jeopardy!" Tournament of Champions](#), bringing credit to himself and public recognition to NPS.
- Five [U.S. patents were awarded](#) to NPS faculty (28 new patent applications submitted)

Sadly, the NPS community also recognized the loss of some valued members who passed away in 2022: [Rear Adm. \(ret.\) Jim Greene](#) served the Navy for more 50 years, 20 of them at NPS as a respected acquisition faculty member; [Dr. Andy Nieto](#) joined the faculty in 2018 and was a rising star in the Mechanical and Aerospace Engineering department; and Thornton Redman, who joined ITACS in 2021 on the Help Desk team, quickly made a name for himself as a competent and cheerful teammate.

Each year, NPS also recognizes some of its most impactful graduates with induction into the [NPS Hall of Fame](#). In 2022, NPS honored the 32nd Deputy Secretary of Defense, [Robert O. Work](#), and former U.S. Strategic Command and U.S. Pacific Fleet commander [Adm. \(ret.\) Cecil D. Haney](#) as the Hall of Fame's 25th and 26th inductees, respectively. These ceremonies, held in conjunction with the Summer and Fall graduations, were a reminder that every NPS graduate has the potential to change the Navy and DOD and make a national and global impact.

**In Strategic Engagements:** Fleet and stakeholder engagements enable NPS to be more responsive to warfighting needs. Bringing senior leaders to NPS helps enhance the learning experience by injecting relevant strategic perspectives and dialogue on current issues and research needs. As an example, NPS' [Secretary of the Navy Guest Lecture series](#) continued with six sessions featuring thought leaders from

DOD and industry, including Secretary of the Navy Carlos Del Toro, Vice Chief of Naval Operations Adm. William Lescher, former Secretary of Defense Robert Gates, and Microsoft Executive Vice President Jason Zander. Two other SGL sessions, held on a classified basis, featured Rear Adm. Blake Converse, deputy Pacific Fleet commander, and Rear Adm. Douglas Small, commander of NAVWAR.

[Each quarterly graduation](#) affords NPS an opportunity to invite impactful senior leaders to visit and speak. Guest speakers at NPS' 2022 graduations were U.S. Marine Corps Lt. Gen. Matthew Glavy, Deputy Commandant for Information; U.S. Space Force Gen. John W. "Jay" Raymond, Chief of Space Operations; former Deputy Secretary of Defense Robert O. Work; and Secretary of the Navy Carlos Del Toro.

NPS also hosted multiple events in 2022, including the annual [Warfare Innovation Continuum](#) and [Acquisition Research Symposium](#); classified events like the [Aircraft Survivability Symposium](#) and Commander, Carrier Strike Group (CSG) 3 post-deployment brief; and [NWSI's Seapower Conversations](#), AI Summits and the AUKUS Undersea Warfare workshop. The school's quarterly [Joint Interagency Field Experimentation](#) (JIFX) events brought dozens of emerging tech industries to NPS test sites to demonstrate technology and expose students, faculty and defense leaders to potential applications.

NPS faculty, staff and students were able to resume greater engagement with NPS sponsors in 2022, presenting research at various academic symposia; engaging with fleet operators and industry at stakeholder conferences and at the Pentagon; demonstrating climate research at Fleet Week in San Francisco; and [flying aboard USS Abraham Lincoln \(CVN 72\)](#) to see and hear firsthand the many challenges of carrier operations at sea.

**NPS Transformation:** NPS began 2022 continuing its "NPS Next" transformation efforts. To guide this work, the Senior Executive Board (SEB) was established to provide long-term planning and governance. This board focused on recommendations from the ["NPS Next" Line of Effort \(LOE\) teams](#) who looked at 15 topic areas within NPS academics, strategic resourcing, and policy integration. LOE teams identified problems and possibilities and set a baseline for NPS' own efforts to align with the Navy-wide ["Get Real, Get Better"](#) campaign, which applies problem-solving best practices for organizational improvement.

Ultimately the LOE teams helped align NPS curricula to higher guidance, increase research impact, improve organizational responsiveness, sharpen financial planning, launch NPS' campus modernization, and expand strategic partnerships – all of which strengthened the institution and set the stage for NPS' envisioned future.

A major step was the realization of NPS' department-based, organizational design. This structure will enable more interdisciplinary research, curricular reform and transition to academic programs aligned to warfighting competencies. [Seven additional transformation decision memoranda](#) were signed in 2022; these documents included the establishment of the new Provost organization, Business Support Cells to serve departments, curricula reduction and creation of Academic Program Areas, an NPS balanced research portfolio to be managed by the new Office of Research & Innovation (ORI), and the Office of Strategic Initiatives (OSI) to support strategy execution.

On the business side, NPS established a requirements-based budget to strengthen future submissions for appropriated funding, and NPS received the final report from the Inspector General's office crediting the institution's self-evaluation as a best practice.

**In Conclusion:** As part of the Naval Education Enterprise, NPS uniquely serves as the fusion of defense-focused education, research, and innovation. Preparing warfighters for a technology-driven future demands NPS education expand beyond theory and fundamentals to solving operational problems, accelerating our intellectual and technological advantage. 2022 saw NPS take major positive steps in this direction, and these efforts will continue with measurable focus and determination in 2023.