

**MAY 2022** 

### WATCH NOW: Brand New Video on NPS and Microsoft Partnership, Impact on the Fleet



The Naval Postgraduate School Foundation is proud to support industry relationships with the Naval Postgraduate School and build connections for new industry partners. Within the NPS-Microsoft Cooperative Research Initiative, the NPS Foundation is developing a collaborative research tool, Project Athena, under the Campus of the Future project. Athena will enable students, operators, researchers and sponsors to connect, collaborate and deliver on multidisciplinary solutions for the Fleet and the Joint Force. Athena will enable academia, industry and the Department of Defense to work together as a team to solve the hardest and highest priority challenges facing our nation.

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# Naval Postgraduate School Collaborates with Microsoft to Bring Emerging Technologies to the Fleet

The Naval Postgraduate School is teaming up with Microsoft to explore how rapidly evolving commercial technologies can solve operational challenges faced by the U.S. Navy and U.S. Marine Corps.

This collaboration will bring together two of the nation's major centers for innovation and development in a cooperative research effort that aims to tackle several highly complex issues associated with rapidly integrating and adopting new technologies in support of warfighting and national security. It also provides the potential to revolutionize how the services organize, train, equip, fight, and win by combining the best of industry, academia, and the government.

"Today, so much innovation and technological research and development is powered by America's robust corporate base. The Department of the Navy has been trying to find ways where our organizations can emulate and evolve with the nimble agility of these organizations, and with success," said Aaron Weis, the Department of the Navy's Chief Information Officer (DON CIO). "This agreement between NPS and Microsoft takes that initiative to the next level, creating a defined cooperative research collaboration between a global tech giant and the capabilities it brings to bear, with the Navy's leading science and technological university, where operationalizing innovation is core to their mission." Read more.

"This Cooperative Research Initiative with the Naval Postgraduate School will provide a remarkable opportunity for us to work shoulder to shoulder with our nation's brightest leaders and service members and help them solve the complex challenges they face. And through this collaboration, we look forward to sharing our latest research and furthering our

- Jason Zander, Executive Vice President, Microsoft

joint efforts to empower our military to make our nation safer."

### **More on Partnership with Microsoft**

FedScoop: Navy, Microsoft Team Up for Figuring out what's Possible with Emerging Tech

Defense One: Navy, Microsoft Team Up for R&D—and the Rights to Sell What Emerges

Defense News: US Navy Cuts Deal to See Microsoft Tools Before they Hit the Market

### NPS Researcher Mentors the Next Generation of Robotics Engineers



NPS Faculty Associate for Research Brandon Naylor, standing, has served as a mentor for the Santa Catalina School student robotics team for the past four years. With his help, Catalina, an all-girls boarding and day school at the high school level, was one of 30 teams competing at the regional FIRST Robotics competition at Seaside High School, March 24-26.

"As a mentor with the team, I teach the girls everything from how to use tools to design principals to computer aided design and coding," Naylor said. "Each year in January, FIRST releases a new game for the season, and my goal is to help the students bring their ideas to life in the form of a functioning robot that accomplishes the game objectives," Naylor described. "Ultimately, I want the students to build a robot they designed themselves and to teach them skills they otherwise would not have access to."

"Brandon's brain has been invaluable to the team," said Steve Nixon, a teacher at Santa Catalina who serves as the lead mentor for the team. "I don't know how we would've gotten as far as we have had it not been for him. He has been here since the team's very first year and has been a crucial part of the team's success." Read more.

### NPS Research in Extreme Weather Prediction Prepares for Future Computing Capabilities



The Naval Postgraduate School (NPS) has received a major grant to explore a groundbreaking new way to model hurricanes and other extreme weather events.

## NPS Applies System Engineering to Bolster Marine Corps Reserve Education System



Marine Corps Forces Reserve is tasked with the mission of augmenting active duty USCM forces with trained and ready Marines. To facilitate this, it assigns active duty Marines to Reserve units as Inspector-Instructors (I-Is), whose job it is

The three-year grant from the Office of Naval Research, awarded in February, will allow mathematicians at NPS and the Naval Research Lab in Washington, D.C., (NRL-DC) to apply new approaches, including machine learning, to high-fidelity computer models to more accurately and efficiently model hurricanes. This will enable the Navy to best predict - and mitigate - these storms' impact on marine battlespace environments the world over.

"This is a game-changer," said Dr. Frank Giraldo, Distinguished Professor and Chair of the Applied Mathematics department and co-lead on the project along with Assistant Professor Anthony Austin, who leads the machine learning aspects of the project. "The novelty of our approach is, in my opinion, the only possible way to ever make weather models scalable on exascale computers." Read more.

to maintain the daily operations of the unit until Reservists report for training.

MARFORRES turned to NPS for help devising a better system for presenting information and transferring knowledge to the I-I cadre. The NPS team devised a three-pronged approach: a formal orientation conference with educational lectures; distance learning (DL) with a reach-back portal; and, practical exercises for experiential or scenario-based learning.

"An operational command identified a problem and we took it on.

MARFORRES has different categories of problems, some technical, some social.

Because we have a diverse set of scientists at NPS, it is possible to call on these experts to address them" said Dr.

Andy Hernandez, Associate Professor, Systems Engineering. Read more.

# Alunni Spotlight



Air Force Lt. Gen. **Timothy D. Haugh**, MS in Joint Information Operations '05, has been selected to be the next Cyber Command deputy. Haugh is currently the Commander, Sixteenth Air Force; Commander, Air Forces Cyber, and Commander, Joint Force Headquarters-Cyber, Joint Base San Antonio-Lackland, Texas. Haugh is responsible for more than 44,000 personnel conducting worldwide operations. He received his commission in 1991 as a distinguished graduate of the ROTC program at Lehigh University. He has served in a variety of intelligence and cyber command and staff

assignments. Haugh has commanded at the squadron, group and wing levels and served on staffs at a numbered Air Force, major command headquarters and combatant command headquarters. Prior to his current position, Haugh was the Commander, Cyber National Mission Force. Read more: Biden Nominates Haugh as CYBERCOM Deupty

Indian Army Lt. Gen. Baggavalli Somashekar Raju, MS National Security Studies '10, has been appointed Vice Chief of the Army Staff. Before taking over the new role, Raju was serving as the Director-General of Military Operations during the standoff on the Line of Actual Control (LAC), the border between India and China. The two countries have been locked in a standoff since June 2020 when both sides lost several troops. Baju is an alumnus of Sainik School Bijapur and National Defence Academy and commissioned in the Jat Regiment in 1984. Baju commanded a battalion during Operation Parakram in the Western Theatre and Jammu and Kashmir. He has been awarded the Uttam Yudh Seva Medal, Ati Vishisht Seva Medal, and Yudh Seva Medal.



# Former NPS Professor Appointed Pentagon's Chief Digital and Artificial Intelligence Officer



Former Naval Postgraduate School Computer Science Professor Dr. **Craig Martell** has been selected as the Chief Digital and Artificial Intelligence Officer (CDAO) for the U.S. Department of Defense.

As the CDAO, Dr. Martell will serve as the department's senior official responsible for accelerating the adoption of data, analytics, digital solutions, and AI functions to enable quicker and more accurate decision-making.

Martell most recently served as the head of machine learning for Lyft. Previously, he was head of machine learning at Dropbox and led a number of AI teams and initiatives at LinkedIn. Prior to LinkedIn, Martell was a tenured computer science professor at NPS specializing in natural language processing. Read more.

"With Craig's appointment, we hope to see the department increase the speed at which we develop and field advances in AI, data analytics, and machine-learning technology. He brings cutting-edge industry experience to apply to our unique mission set."

- Deputy Secretary of Defense Dr. Kathleen H. Hicks

### **Upcoming Events**

19th Annual Acquisition Research Symposium\_ Interactive Online Event\_

MAY 11-12, 2022

### **Register Here**

**Key Note Speakers** 



The Honorable **Andrew P. Hunter**, Assistant Secretary of the Air Force for Acquisition, Technology, and Logistics



Mr. Frederick Jay Stefany, Principal Civilian Deputy Assistant Secretary of the Navy for Research, Development and Acquisition (PDASN (RD&A)) Performing the Duties of ASN (RD&A)



### **Discovery Day at NPS**

MAY 13, 2022

Discovery Day is focused on breaking down barriers, ensuring opportunities and encouraging STEM education for our local youth.

NASA Astronaut, Naval Officer and Naval Postgraduate School Alumnus, Capt. **Victor Glover** will speak with students during the day. Glover returned from his 6-months on the International Space Station on SpaceX's Crew Dragon on May 2, 2021. He completed 168 days in orbit and participated in four spacewalks.

### In Case You Missed It:

Faces of NPS: Continued Impact on the Force- April

Informatized Wars: How China Thinks About Cyber

Redesigning Army Special Operations Forces Talent Management for the 21st Century (article by NPS Defense Analysis recent graduates)

Combating Terrorism Exchange: Hybrid Threats and Energy Security (3 articles by NPS faculty)

DOD Aims to Close Gap in Bringing U.S. Tech Innovation to Market

Pentagon Needs Realistic Experimentation for Emerging Tech, Says Navy Scientist

The Pentagon Needs to Adopt Data-Brokering Solutions

Preparing Soldiers for the Age of Al

Free Advice for Putin: Make Peace You Fool

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