



Calhoun: The NPS Institutional Archive
DSpace Repository

NPS Scholarship

Publications

2022-12-30

NPS Research in Electromagnetic Waves Hunts for Ship's 'Ghost Signals'

Mena-Werth, Rosemary

Naval Postgraduate School, Monterey California

<https://hdl.handle.net/10945/71405>

This publication is a work of the U.S. Government as defined in Title 17, United States Code, Section 101. Copyright protection is not available for this work in the United States.

Downloaded from NPS Archive: Calhoun



Calhoun is the Naval Postgraduate School's public access digital repository for research materials and institutional publications created by the NPS community. Calhoun is named for Professor of Mathematics Guy K. Calhoun, NPS's first appointed -- and published -- scholarly author.

Dudley Knox Library / Naval Postgraduate School
411 Dyer Road / 1 University Circle
Monterey, California USA 93943

<http://www.nps.edu/library>



NPS Office of Research and Innovation will Accelerate Solutions from Idea to Impact

Rosemary Mena-Werth | January 23, 2023



CURRENT HEADLINES



[Artificial Intelligence Summit at NPS Accelerates Critical Capabilities](#) | January 19, 2023

The Naval Postgraduate School (NPS) has established the new Office of Research and Innovation (OR&I) in order to empower the work of faculty members like Anthony Gannon, an associate professor in the school's Department of Mechanical and Aerospace Engineering, and students such as those conducting modeling and simulation research. OR&I was created by NPS in response to higher Department of Defense and Navy guidance for greater leadership in technology and innovation that enables our nation's and military's strength.

“Technology is central to today’s geopolitical competition and to the future of our national security, economy and democracy. U.S. and allied leadership in technology and innovation has long underpinned our economic prosperity and military strength.” – National Security Strategy

The Naval Postgraduate School (NPS) recently established the [Office of Research and Innovation](#) (OR&I) in response to the National Security Strategy and National Defense Strategy’s call to leverage emerging technologies and innovative design practices to accelerate the development of full spectrum capabilities in order to maintain decisive maritime advantage and hedge against uncertainty.

During a recent address at Columbia University, Secretary of the Navy Carlos Del Toro stated, “The best way to deter our adversaries is for the department to restore its technological superiority.” The Department of the Navy is driving innovation across every aspect of the service.

“Education is the key connector for this work. Our educational institutions hold great promise and opportunity,” Del Toro added.

NPS is a central connector in the naval innovation ecosystem, uniquely positioned to complement the Naval Research and Development Establishment (NR&DE). OR&I will fully leverage the school’s enduring and fundamental strengths – motivated warrior-scholar students with fleet and field experience; renowned, defense-expert faculty; a mission grounded in advancing the naval services; and close proximity to the heart of American technological innovation.

[NPS Research in Electromagnetic Waves Hunts for Ship’s ‘Ghost Signals’](#) | January 9, 2023

MEDIA CONTACT

Office of University Communications

1 University Circle
Monterey, CA 93943

“OR&I will be a support mechanism to take NPS’ research enterprise to an entirely new level, leveraging our naval innovation ecosystem – a network of academia, defense researchers, and industry working with NPS faculty, students and the operational fleet,” according to Dr. Kevin Smith, NPS Vice Provost for Research and head of OR&I.

(831) 656-1068

my.nps.edu/office-of-university-communications
pao@nps.edu

Academic basic research drives the discovery and dissemination of new knowledge, which helps to ensure the veracity of NPS cutting-edge curricula. The former NPS Research Office provided vital support to the school’s academic research function. OR&I will continue to support foundational research, while also promoting faculty and student engagement in larger, multidisciplinary projects to help advance the Navy and Marine Corps as an integrated, all-domain force. “OR&I will continue to provide support to NPS faculty and researchers, such as processing proposals and support agreements,” said Smith.

Under Smith’s leadership, OR&I, along with the [Naval Warfare Studies Institute \(NWSI\)](#), is working to strengthen relationships throughout the NR&DE and across the Navy and Marine Corps staff, combatant commands, and others in the Department of Defense to provide NPS with important engagement and support for research projects that take solutions to key operational problems from concept to capability through academic research.

Together, OR&I and NWSI are developing collaborative industry partnerships, enabling project management, and promoting interdisciplinary, multi-organizational research teams conducting repeatable, rapid innovation processes, prototyping and experimentation.

“NPS’ secret weapon is its students,” said U.S. Marine Corps Col. Randy Pugh, director of NWSI. “They are warrior-scholars with incredible talent and operational insights. Working alongside expert faculty, they inform research and the innovation process. We are working to strengthen our connection between them and the challenges of the fleet and Fleet Marine Forces (FMF) and the Sailors and Marines out ‘doing the job,’ and they will far exceed our highest expectations. The Office of Research and Innovation is critical to achieving this vision at scale.”

“We are increasingly offered a space at the table for discussions on how NPS can contribute to the challenges facing the Navy,” said Smith. “And our formal membership within the NR&DE provides NPS with significant capacity in technical capabilities, opportunities to do testing on ranges, build prototypes, and really expand what we can do on the engineering side. With the operational experience of our warrior-scholars, this provides NPS and our partners with the opportunity to support test and evaluation of systems being developed through the Navy’s process of innovation.”

Many of these partnerships are supported by [Cooperative Research and Development Agreements](#) (CRADAs) that allow government researchers to work with industry partners such as Microsoft, AT&T, and Xerox. Additionally, the [Naval Research Program](#) (NRP) links the operational Navy and Marine Corps commands with researchers to solve timely operational fleet and FMF needs.

Naval forces operate under, on and above the ocean, as well as ashore in space and cyberspace. Over the past decade, NPS research has expanded to larger endeavors that address increasingly complex, multidomain challenges and span NPS departments. Ultimately, Smith said that OR&I is about fully leveraging the enduring strengths of NPS – something which is more important than ever given today’s rapidly changing security environment.

“The imperative is that we develop solutions and capabilities faster than our adversaries to reestablish and sustain the technological advantage critical to warfighting, as well as the cognitive readiness to fight and win,” added U.S. Navy Capt. Bill Sherrod, director of the NPS Office of Strategic Initiatives.

Effective solutions must involve the fleet and increasingly industry partners where much of today’s technology innovation is occurring. OR&I will connect fleet needs with researchers, support proposal development, find funding sources, identify partners, and provide program managers to support the administration of larger projects at an institutional level.

“The reason we are moving to an Office of Research and Innovation is because we are now making an intentional institutional effort to capitalize on the attributes unique to NPS that we have here to support innovation within the Department of the Navy and accelerating research solutions from idea to impact,” Smith said.

Learn more about the [Office of Research and Innovation](#) and how it will advance NPS priorities and desired outcomes outlined in the [NPS Strategic Framework](#).