INSIDE:
NPS Helps Plan Multinational Counterterrorism Exercise
Evaluating CubeSats for Communications Support
Student Honored with Prestigious Supply Corps Award

OPERATION H•A•D•R
NPS STUDENTS AND FACULTY DEPLOY TO THE CENTRAL PHILIPPINES TO PROVIDE RELIEF FOLLOWING TYHPOON HAIYAN, BUT IT'S ON CAMPUS WHERE THE BULK OF UNIVERSITY EFFORTS TO IMPROVE HADR OPERATIONS HAPPENS EVERY DAY.
**Our students are consummate professionals at every level, our faculty are world-class, and our educational programs are relevant, adaptable and of immediate value to the Navy and DoD.**

A graduate returning to campus to serve in my current capacity, I continue to be impressed by the synergistic relationship between our students, faculty and curricula. Our students are consummate professionals at every level, our faculty are world-class, and our educational programs are relevant, adaptable and of immediate value to the Navy and DoD. This is, without question, one of the most powerful statements of value this institution can make. But it is certainly not the only one.

At NPS, along with the advanced education afforded our students comes several related benefits—broadening the leadership skills and network of professional relationships of our students; and student and faculty research that is directly responsive to the needs of the Fleet and the Combatant Commander. While these rigorous efforts are a necessary part of graduate education, it is the positive impact on the mission and readiness of the Navy, our sister services, and other agencies that delivers great value to a multitude of sponsors.

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This edition of "In Review" magazine contains several examples of the impact of work done by NPS. Late last year, an Atlas V rocket launched in Southern California carried with it a small, cube-shaped nanosatellite that SOUTHCOM hopes can support tactical communications in some of the dense jungles within its region. To evaluate the capability, SOUTHCOM turned to NPS students and researchers in our Distributed Information Systems Experimentation, or DISIS, group.

In the information dominance corps, the demand for highly technical junior cyber warriors is high, but current gaps in training present a challenge to fulfilling this demand. Educational programs for senior Sailors and officers, including those here at NPS, are working, but in the technically-demanding world of cyberspace, how could the Navy get young Sailors ready for cyberspace, as quickly as possible? An NPS student, Lieutenant Jerry Wyrick, is developing a solution—a short but intensive training program to help provide cyber Sailors with enough technical savvy to operate in critical Fleet cyber positions.

Efforts like these, and others by our students and faculty, demonstrate leadership and excellence in their communities, and it’s getting noticed. The Vice Admiral Robert F. Batchelder Award is presented annually to the Surface Navy Officer with exemplary contributions to the supply readiness of the operating forces. Lieutenant John Sprague was recognized as a leader in his field when he received the award this past quarter for providing logistics support to SEAL Team Three at his previous command. And he will now have the opportunity to continue to improve his skills as a student in the NPS operations analysis program.

In a nod to one of our expert faculty, Associate Professor Nita Shattuck earned the Surface Navy Association’s Literary Award for her work with sleep and performance optimization through the application of non-standard, watch-standing schedules. Also, our Operations Research (OR) department was officially presented with an impressive trophy for their INFORMS Smith Prize for best OR Department in the nation, an award that had been announced last spring.

All of these outstanding student and faculty achievements offer testament to the value an NPS education provides to Navy mission effectiveness, but perhaps none more so than our cover story to the best OR Department in the nation, an award that had been announced last spring.

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This past November, a team of students and faculty at NPS deployed to the Philippines to provide communications assessments and support following the devastation left by Typhoon Haiyan, as part of an ongoing research project for rapidly deployable networks. In a nod to one of our expert faculty, Associate Professor Nita Shattuck earned the Surface Navy Association’s Literary Award for her work with sleep and performance optimization through the application of non-standard, watch-standing schedules. Also, our Operations Research (OR) department was officially presented with an impressive trophy for their INFORMS Smith Prize for best OR Department in the nation, an award that had been announced last spring.

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In the critical field of cyber operations, the work of an Army officer with little background in computer science has garnered considerable attention and respect from many experts in the field.

While completing his graduate studies in NPS cyber systems and operations master’s program, U.S. Army strategist Capt. Joseph Billingsley of Stanford, Conn. recognized the strategic value of creating a profession that would promote the needs of the cyber community.

And that drive to Billingsley to double-duty while completing his thesis, founding the pavement to get his Military Cyber Professionals Association (MCPCA) up and running.

“My motivation for focusing on cyber as opposed to more traditional areas of strategic thought was the growing concern about this field on Wall Street, K Street and Main Street. The need was for a professional in numerous strategic planning documents and policies,” said Billingsley.

“I wanted to make a meaningful contribution to the community, and I knew that I wasn’t going to be able to do that in a traditional manner. I am a strategist, not a technologist, but I believe that in an environment as dynamic as cyberspace, the most enduring piece of key terrain is the people,” he continued. “As a strategist, I was tasked with thinking long term. The establishment of a cyber association is a long-term approach to meeting our nation’s top cyber enduring piece of key terrain is the people,” he continued. “As a strategist, I was tasked with thinking long term. The establishment of a cyber association is a long-term approach to meeting our nation’s top cyber needs today and in the future,” said Davis.

Davis also offered insight into the importance of the emerging cyber world, the need for total force management.

“The first is our growing dependence upon networked technologies globally. In the areas of public health, safety, finance and personal empowerment, there is an increasing reliance on the cyber domain, “ said Davis.

“While the first dynamic offers us both opportunity as well as risk, the second dynamic involves evolving threats — threats from criminal and espionage activities, to more overtly destructive efforts that are underway. When we look at these two dynamics, we have to keep them in balance. It is because of these dynamics that cyber operations are so important today,” he continued.

Hernandez’s aim is to continue expanding the operational relationship between NPS and the Marine Corps Expedientary Energy Office (see full story, page 25) in hopes of forging new ideas and expanding research capabilities.

“Conservation of energy for the USMC is a means to extend operational reach,” said Hernandez. “This is the continued sustained operations in both time and space without increasing the amount of energy required. The ability to extend operations affects all military activities, including communications, command and control, computing, and intelligence.”

Hernandez discussed current research to identify and quantify factors of human behavior that have the ability to extend operational reach when changed. He also spoke with NPS Defense Research Professor Dr. Michael E. McCaulley and Research Associate Anita Salem to the conversation, bringing their expert analyses to the presentation.

“Understanding energy dependencies of all of the projects and research was met with high praise during his presentation,” continued Luhrs. “It was a great sense of how to work, leadership and enthusiasm.

“Jamie is a very bright student who shows leadership and creativity, always having a great amount of hard work, leadership and enthusiasm.”

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Scheduled visit to the campus, Nov. 20.

UNIVERSITY NEWS

Addressing NPS Enlisted of you will become the Navy's future leaders. We are preparing you for the future advancement, while sharing some of the Navy career planning and advice.

NPS Celebrates Dr. Martin Luther King Jr. During Annual Breakfast

The Monterey Chapter of the National Naval Officers Association (NNOA) joined regional civic leaders, community officials and university President Retired Vice Adm. Ronald A. Route in celebrating the legacy of Dr. Martin Luther King Jr. during the annual commemorative breakfast, Jan. 25. Village Project Inc. Chair Ann Todd Jealous was invited by the NNOA to serve as the event's keynote speaker.

"We often hear of Dr. King in the context of the extraordinary, but I think it's just as important to talk about the ordinary," said Jealous. "I share the imperfections but I think it's just as important to talk about the ordinary, to talk about the student who graduated from high school and went on to make a difference." Jealous participated in the 1963 March on Washington for Jobs and Freedom where, as a 16-years-old, he heard King's famous, "I Have a Dream," speech.

NNOA advisor and NPS Graduate School of Business and Public Policy Associate Dean Craig S. Johnson commended Jealous for his speech, "You gave me so much to think about, and I enjoyed it tremendously!"

Jealous family is active in a number of community organizations designed to empower people to improve their lives. Jealous has been honored with the Navy League Award of Merit, a student in the national Breakthrough Men’s Community Band, Fred Jealous, is founder of the organization.

Chief of Naval Personnel and Deputy Chief of Naval Operations for Manpower, Personnel, Training and Education Vice Adm. William F. Moran addresses NPS students in the university’s King Auditorium, Nov. 20.

"It's important to be part of the planning and programming of all manpower, personnel, training and education resources for the U.S. Navy," said Moran.

NPS community leaders honor the legacy of Dr. Martin Luther King Jr. during annual breakfast.

In Review • February 2014

University News

NPS Celebrates Dr. Martin Luther King Jr. During Annual Breakfast

Vice Adm. William F. Moran, Chief of Naval Personnel, Talks Manpower During SGL

Chief of Naval Personnel and Deputy Chief of Naval Operations for Manpower, Personnel, Training and Education Vice Adm. William F. Moran addressed NPS postgraduate school students in the university’s King Auditorium, Nov. 20. Moran’s visit, part of the Secretary of the Navy Guest Lecture Series, provided the Navy’s personnel chief with an opportunity to update the university’s officer students on key manpower issues facing the sea service.

Moran spoke at length about the Navy’s current budgetary and personnel restraints and offered insights into his staff’s planning processes. He also spoke about the importance of two-way communication between Sailors “at the waterfront” and policy makers in Washington.

“Cultivate the good, improve the bad,” said Moran. “I encourage you on self-improvement. Her son, Benjamin, recently completed a five-year term as President of the NAACP.

"It's how you implement, execute, and communicate that makes the difference on how policy is received in the fleet," said Moran. "This is the importance of talking about our educational experiences at NPS, and demonstrating how what they've learned at NPS can bring value back in Washington.

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"We're very appreciative to the Office of Naval Research (ONR) and the Defense Threat Reduction Agency (DTRA) that have sponsored much of our work," said Professor Hooper. "The research is not possible without the support from our sponsors and considerable hands-on work from our students and faculty.

"I am the technical guy in the project. It is important that we understand what is possible and what is impossible. There is all sorts of new technology that we must evaluate in order to determine what is possible and what is not,” he said. "Ethics is not just abstract, it is useful. It should lead to agreements between states as we explore this issue. Ethics should lead to laws, particularly in regard to new technological developments.

"We need to have some analogies to conventional warfare, but we need to come to a consensus on what is acceptable," said Strawser. "What is cyberwarfare, and what actions in the cyber realm constitute an act of war?" Roscoe's background in artificial intelligence makes him the only non-philosopher among the grant awardees. He will be guiding his co-principal investigators on the more technical aspects of the research.

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DRMI Helps Senior Panamanian Officials Advance Resource Management

The Defense Resources Management Institute (DRMI) held a three-day workshop that sought to identify Panama’s long-term resource management education requirements and to develop an appropriate engagement plan to meet those requirements.

Panama’s Vice Minister of Public Security, Manuel Moreno, along with the commissioners of the Panamanian National Police, National Boarder Service and National Air-Naval Service participated in the resource management assessment.

DRMI’s Luis Morales accompanied the group of officials throughout the assessment and workshop.

The Ministry of Public Security wants to improve the utilization of their scarce resources,” said Morales.

"We’ve started the preparations for a five-year strategic plan for optimization of their resource allocation process.

DRMI facility will continue to work with the Panamanian security agencies via video teleconferencing to assist them as they develop a long-term engagement plan. (U.S. Navy photo courtesy Charlie Osbourn, DRMI)

Army Deputy Chief of Staff Talks Manpower with Regional Army Officers

U.S. Army Deputy Chief of Staff, G-1, Lt. Gen. Howard B. Bromberg addresses Army officers from NPS and the nearby Defense Language Institute Foreign Language Center in King Auditorium, Nov. 8. Bromberg addressed the critical manpower and personnel issues Army leaders are facing back in the Pentagon, while also fielding questions from the audience.

"We are cutting back," Bromberg said, presenting a message heard across all the services in the modern era of sequestration and its effects on the budget. Bromberg detailed manpower concerns and considerations while also delivering dollars of savings. Moreover, he underscored the Army’s strategic Priorities across the service.

Bromberg became the U.S. Army’s 46th Deputy Chief of Staff, G-1, on July 21, 2012. He is responsible for developing, managing and executing manpower and personel policies, plans, programs and policies for the total Army.

DRMI Lecturer Luis A. Morales answers a question from Panamanian National Police Commissioner Elias Gatson during a workshop for senior Panamanian government officials, Jan. 23.

"[Guitard] came to NPS to identify potential areas for collaboration between NPS and Army intelligence endeavors," said Col. Patrick J. Wempe, Army War College Fellow in the NPS Department of Operations Research and the Management Sciences.

"This is not just a Navy priority, it’s a national priority," said Thomas McAnally.

"We feel like inspired people to go out and change things." The forum kicked off a 7-month fleet engagement ‘listening tour’ led by the director of the 21st Century Sailor Office, Rear Adm. Sean S. Buck. Buck will be engaging Sailors across the fleet in an effort to address, among other things, SAPR, suicide prevention and stress management. (U.S. Navy photo by Mass Communication Specialist 3rd Class Robert Luckey Jr.)

"The investiture ceremony was considered one of the Queen’s Birthday Honours List, which was announced earlier this year," Smith said. "We are cutting back," Bromberg said, presenting a message heard across all the services in the modern era of sequestration and its effects on the budget. Bromberg detailed manpower concerns and considerations while also delivering dollars of savings. Moreover, he underscored the Army’s strategic Priorities across the service.

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Southcom Turns to NPS to Evaluate CubeSats for Communications Support

6

By Kenneth A. Stewart

THE U.S. SOUTHERN COMMAND (Southcom) has embarked on an ambitious international CubeSat program, and turned to the Naval Postgraduate School for help.

Naval Postgraduate School Research Associate Brian Wood and student Marine Corps Capt. Clayton Jarolimek inside NPS’ Mobile CubeSat Command and Control (MC3) center. Wood and Jarolimek are working to assess the communications utility of CubeSat technologies recently deployed by U.S. Southern Command.

DISE Research Associate Brian Wood has lead on the NPS effort to assess the operational value of the technologies employed by the mini-CubeSat.

"SNAP-3 is an attempt to fill a capabilities gap associated with the need for other than line-of-sight communications in Southcom’s heavily-forested area of operations," said Wood. "NPS will be conducting an assessment of SNAP-3’s ability to fill that gap."

Jarolimek of Minto, N.D., is working with Wood on the SNAP-3 assessment.

"One of the things that drew me to this was my past experience on the ground without satellite communication in Helmand Province, Afghanistan. If adopted, SNAP-3 has the potential to bring satellite communications down to squad size units on the ground."

"I will be conducting an analysis of the architecture of the constellation of the SNAP-3 network," continued Jarolimek. "I hope to be able to make recommendations to the U.S. Army’s Space and Missile Defense Command and look at the manner in which the Marine Corps may be able to benefit from this technology as it is realized."

Vidur Kaushish and Wenshel Lan, doctoral students in the universi-

ty’s space systems program, are plenty familiar with the NPSCuL launch-

er, and helped get SNAP-3 into the payload for the Southcom launch.

"We built, tested, and integrated the system before delivering it to Vandenberg," said Kaushish.

"I used to work on launch vehicles before I came to NPS, but I rarely had the opportunity to get up on the rocket and work with the hardware like we do here," said Lan. "It’s something that not many people get to do."

"Satellite education is central to the SSAG goal of ‘blending classroom experience into a hands-on pedagogy that links theory and reality,’" says SSAG Professor Dr. Jim Newman.

Newman has been educating NPS students, and developing satellite technology, since his time as an astronaut in NASA’s space shuttle program.

"I realized that CubeSats are an ideal satellite-studies platform due to their cost, the variety of missions they are suited to perform and their ability to be used in conjunction with other CubeSats," said Newman.

That realization has led to numerous CubeSat launches and the in-

corporation of CubeSat technology into the SSAG curriculum, which has allowed NPS students and faculty to demonstrate the full spectrum of satellite operations.

"You get a rounded experience [at NPS] when it comes to how a satel-

lile is developed from start to launch, its something that you would not see at other graduate institutions," added Kaushish.

Newman insists that satellite research at NPS has both academic and practical value.

"There is a need in the fleet to understand what the capabilities of our space systems are: We are educating students to understand and to be able to speak to satellite capabilities. Students have a variety of thesis topics available to them, by studying in this area they know how to apply what they have learned," continued Newman.

SSAG’s hands-on application of theory is evident in the two CubeSats it has launched this year. These satellites are helping students and re-

searchers to understand the complexities of low-earth orbit and provid-

ing platforms that can be used to test new technologies.

In addition to low-Earth orbit, NPS also recently launched its Solar Cell Array Tester (NPS-SCAT) satellite. Indicative of the SSAG approach to both satellite education and development, SSAG students and faculty worked together in building and launching the NPS-SCAT satellite in order to test solar arrays in the low-earth-orbit environment.

"NPS-SCAT has room for four different types of solar cells, ranging from cheap to expensive high-efficiency cells. The experiment will allow us to see how the various cells perform and degrade in a low earth orbit," said Aaron Felt, an NPS intern from nearby California State University Monterey Bay (CSUMB).

A United Launch Alliance Atlas V rocket carrying a National Reconnaissance Office payload launches from Vandenberg Air Force Base in Southern California, Dec. 5, 2013. The launch included U.S. Southern Command-sponsored nanosatellites that students and researchers at the Naval Postgraduate School will assist in evaluating for low-cost space communication capabilities in support of information sharing and tactical communications.
A typhoon hit the Philippines. By 8:40 a.m., Typhoon Haiyan made landfall in the southern Philippine island of Leyte. Minutes later, nearly every single one of its pines. Minutes later, nearly every single one of its pines. Minutes later, nearly every single one of its pines.

By the end of the day, Haiyan had met a the modest municipality of Guiuan in the Eastern Samar province of the Philippines. Almost later, nearly every single one of its 50,000 men, women and children had nothing. The by the end of the day, Haiyan had met a the modest municipality of Guiuan in the Eastern Samar province of the Philippines. Almost later, nearly every single one of its 50,000 men, women and children had nothing.

Natural disasters, and the severity of damag caused by them, are on the rise. For the United States Armed Forces, and the Navy in particular, large-scale humanitarian assistance and disaster relief operations, or HADR, are already a primary warfighting capabilities. Operation Damayan, the HADR operation in response to Haiyan’s devastation, was a massive, multinational, joint service event with thousands of military personnel, the US George Washington (CVN-73) and her escort ships, and several tons of relief supplies. And this is certainly not a new capability for Sailors and Marines in the US. Pacific Command area of responsibility, where more than 20 major HADR operations across the rim have already been executed in less than that many years. The by the end of the day, Haiyan had met a the modest municipality of Guiuan in the Eastern Samar province of the Philippines. Almost later, nearly every single one of its 50,000 men, women and children had nothing.

NPS students and faculty deploy to the Central Philippines to provide relief following Typhoon Haiyan. But it’s on campus where the bulk of university efforts to improve HADR operations happens every day.

Students from the Naval Postgraduate School (NPS) Formed Networks (HFN) Research Group and others have provided immediate rapid response capabilities to Haiti through U.S. Southern Command. U.S. forces from the Air Force Special Operations Command, Hornets Field Fl.offited injured people from a C-130 Hercules aircraft Jan. 15, 2010, after the earthquake in Port-au-Prince, Haiti. The command provided immediate rapid response capability to Haiti through U.S. Southern Command.

When Typhoon Haiyan struck late last year, the unfolding scenario was one that NPS HFN’s Communications Officer on board the aircraft was critical, we cannot coordinate if we can’t communicate,” echos NPS student Marine Corps Maj. Travis Beeson of Versailles, Ohio.

A major complication in a situation like this is aid distribution — some areas do not get enough assistance and others get too much.”

Students from the Naval Postgraduate School, the halls of academia.

Members of the U.S. Armed Forces and the Armed Forces of the Philippines deliver family food packs in Marawi donated by local businesses and private organizations to aid communities affected by Tropical Storm Ketsana in Oct. 2009.
The girth of student-driven research into all aspects of HADR operations is reflected in the graphic spanning these two pages. In part, it’s a reflection of students’ wishes to create impact with their chosen theses topics, for it is clearly an area of significant growth on campus. But altruistic goals aside, HADR operations are a core mission objective for every Combatant and Fleet Commander across the service, and the detailed analyses by students and faculty in every department, and a laundry list of curricula, are proving to be a resource for future Task Force commanders and decision makers at every level.

On the surface, the information represents three years of work for some 60 students generating a total of 45 theses. But the depth of this work will only be known when the U.S. Navy responds to the next crisis, and does so more efficiently and effectively.
and faculty across several curricula are charging forward on a wide range of these projects analyzing every aspect of HADR operations imaginable, from command and control to supply chain logistics to emergency response management. Two of the key players are NPS Graduate School of Business and Public Policy Associate Professor Dr. Aruna Apte and Assistant Professor Dr. Kremen Yoho with the university’s Graduate School of Business and Public Policy. The two faculty are guiding a series of important, student-led HADR research efforts with the aim of improving processes and meeting the Navy’s burgeoning HADR research requirements.

“I was looking for a service-oriented military topic when Hurricane Katrina hit in 2005,” said Apte. “Like many academics, Katrina in- terested me the most. I16 wanted to devote and take an active role in conducting HADR research, but Apte said. “One of my students, Cmdr. Stephen Ures, spent the first 10 minutes of each class talking about Haiti and providing management operations management strategies to analyze the problems,” continued Yoho. “For example, we looked at Haiti’s single runway and started using queue calculations to see how long it would take supplies to arrive. After that experience, I was all in.”

A business school may not seem like a natu- ral fit in conducting HADR research, but Apte insists that it’s possible given the right expertise. A student-organized faculty student body possesses the ideal mix of academic and operational expertise necessary to tackle HADR challenges.

“We have the necessary facility with the expertise to make it work,” said Apte. “We look at processes and how problems are solved within those processes. That sort of education lends itself natu- rally to looking at HADR problems.”

“A lot of this is background in operations and logistics management deals with process management and we tend to think in terms of processes. We have to ask, when do these processes start and how do we manage them, where are the bottlenecks, when do you have to hand off to another organization and how do you mitigate quality costs?” added Yoho.

And while the logistics and supply chains that support HADR operations are similar to those that are used to support both industry and other DoD operations, they do require consider- able foresight and planning - luxuries that are rarely afforded to disaster relief professionals.

“HADR logistics necessitate a response supply chain, and these supply chains are very difficult to manage,” explained Apte. “There are critical time windows that must be met and a great need for collaboration among a diverse array of players ranging from government agencies to military and regional actors.”

“When conducting HADR operations we have to look at the Navy, for example, people need water more than food, so how do we get the water in first? We would prefer to avoid a situation where we just put items forward but people are not drinking it.”

“Student theses like Ures are far from unique. In fact, more than 40 theses covering different aspects of HADR operations have been completed at NPS over the past three years, representing a comprehensive resource for task force planners and commanding officers across the service.”

And given the likelihood that the capabilities required across the HADR mission set will only increase, the Naval Postgraduate School is poised to lead the way in expanding the power of unity and cooperation,” said Bumatay, who was himself a victim of a natural disaster as a child during the 1991 eruption of Mt. Pinatubo. “I was on the receiving end of ‘Bayanihan’ 23 years ago. Without other people coming to me and my family’s aid, recovery would have been extremely hard.”

“Going back to the Philippines as part of NPS’ disaster response provided me an opportunity to return the favor,” continued Bumatay. “It was the right thing to do. U.S. military personnel and the international commu- nity may not have been aware of it, but what we all accomplished evoked the ‘Bayanihan’ spirit and I know the people of the Philippines are eternally grateful.”

The military means a lot of things to different people, but to Lt. Cmdr. Anthony Bumatay, it is the call to ‘Bayanihan.’

“Filipinos have an ethos called ‘Bayanihan.’ It’s where the whole village comes to the rescue of a resident who may be in dire need of assistance,” he described. During one of his cross-country trips, Bumatay had the chance to observe in person this natural instinct that the people of the Philippines have in support of disaster recovery efforts in the wake of Typhoon Haiyan last Nov. 18.

A former Communications Officer serving on the aircraft carrier USS Carl Vinson (CVN-70), Bumatay leveraged his abilities to establish a reliable commu- nications link between the multinational command center (MNCC) in Cebu and personnel operating in the disaster areas.

“If you can communicate, you can operate,” said Bumatay. “The Philippines lacked [satellite communications] capability and this was a communications gap that our team was able to fix immediately.

But it was far more than an effort in establishing emergency communications for Bumatay. After the suc- cessful humanitarian mission to his homeland, Bumatay reflected back on his experience of Bayanihan.

“Filipinos believe in the communal spirit of ‘Bayanihan’ which establishes a genuine partnership between the people of different communities to work together to achieve a common goal. This phrase signifies the love and respect for the unity and cooperation, which the Filipinos always practice and the spirit they are known for.”

“Bayanihan is not just a phrase. It is a way of living, a culture that is deeply rooted in the Filipino spirit.”

TEN YEARS OF DISASTER DECLARATIONS 

1991, Typhoon Haiyan, Philippines

2001, Operation Tomodachi

2005, Nuclear disaster in Japan

2007, Operation Sea Agnel II, Bangladesh Cyclone

2009, Operation Unified Response, Haiti

2010, Pakistan Floods, nuclear disaster relief efforts

2011, Operation Friedland

2013, Typhoon Haiyan, Philippines

COMMUNAL SPIRIT CAN BE THE KEY TO RELIEF OP SUCCESS

By M2C Shaw J. Stewart

Lt. Cmdr. Timothy Michel reviews an X-ray as he performs surgery aboard the Military Sealift Command hospital ship USNS Comfort in Port-au-Prince, Haiti during Continuing Promise 2011. Continuing Promise is a five-month humanitarian assistance mission to the Caribbean, Central and South America.

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NAVAL POSTGRADUATE SCHOOL

A HISTORY OF DISASTER

1918 - 1919, Flu Pandemic: U.S. Army and Navy personnel sick with the widespread disease of the influenza pandemic.

1920 - 1929

1930 - 1939

1940 - 1949

1950 - 1959

1960 - 1969

1970 - 1979

1980 - 1989

1990 - 1999

2000 - 2009

2010 - 2019

March 10, 1853, Long Beach Earthquake: U.S. Army And Navy Pacific Division Responds.

April 18, 1906, San Francisco Earthquake: U.S. Navy rescue and firefighting work saved large parts of the city from destruction.

1950 Disaster Relief Act: Disaster declaration authority given to the President and a permanent general disaster relief program, replacing even specific and ad hoc aid.

Aug 14-19, 1953, Greece: The Amphibious Task Unit of the Navy, Aircraft Carrier TF 135 and seven-ship Task Force 135, including CVA-38 Shangri-La, assisted in relief operations in the Ionian Islands.

Sept. 11, 2001, Terrorist Attacks

1959 Creation of the Federal Emergency Management Agency (FEMA), which establishes disaster relief agencies, National Flood Insurance Program.

Aug 25, 2005, Hurricane Katrina, the most costly hurricane in U.S. history.

2007 Operation Sea Agnel II, Bangladesh typhoon.

2008, Operation Unified Response, Haiti

2010, Pakistan Floods


2013, Typhoon Haiyan, Philippines

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Volunteerism is defined as "the act or practice of doing volunteer work in community service.

The very act of volunteering is a cornerstone for the United States military — there are nearly 1.5 million individuals in the uniformed services, "The act or practice of doing volunteer work in community service."

STUDENTS FROM THE Naval Postgraduate School and nearby Defense Language Institute Foreign Language Center (DLIFLC) joined the regional community in welcoming Army Sgt. Brian Jergens and his family to their new home during a ribbon-cutting ceremony in Hollister, Calif., Dec. 12.

The home was donated by Homes for Troops, a national non-profit organization founded in 2004, and was built by members of the local community in a wide variety of events and programs. Food drives to feed the hungry, golf tournaments that raise money for local charities, and athletic events that build awareness are only the beginning. Some Sailors even take it a step further by volunteering for events and programs. Food drives to feed the hungry, golf tournaments that raise money for local charities, and athletic events that build awareness are only the beginning. Some Sailors even take it a step further by volunteering for events and programs.

Sailors frequently serve the local community in a wide variety of events and programs. Food drives to feed the hungry, golf tournaments that raise money for local charities, and athletic events that build awareness are only the beginning. Some Sailors even take it a step further by volunteering for events and programs.

Army Maj. Alex Williams, also in the defense analysis program, coordinated much of the NPS contributions to the volunteer effort for Jergens. "All of us have friends, colleagues and comrades who have been injured or damaged in some capacity," said Williams. "It's kind of cathartic for us to see that people do get better. The courage of this Soldier and his wife is truly inspiring ... it puts your own problems into perspective.

Army Maj. Alex Williams Defense Analysis

When all of the fanfare dies down and these people start getting back to their daily lives, things are going to be very difficult. These Soldiers need to know that they have somewhere to turn, that there are people out there that they can contact. We are in this for the long haul," Williams added.

The culture of volunteerism at NPS will continue to flourish with programs like Breakfast for Your Brain, honor guard and various volunteer opportunities throughout the Monterey Bay area.

"Whether it is standing in the rain asking for donations or getting my hands dirty, I will do anything I can to help this community. The Navy core values of Honor, Courage, and Commitment are not just something to follow in regards to being on duty."

"I've been a volunteer at the MCRCC [Monterey County Rape Crisis Center] since November of 2012," said Yeoman 3rd Class Breana Ruiz. "I man the phones at MCRCC every Tuesday from 1600 through 1900 the next day," she said. "I volunteer because Monterey Bay is also my community and home."

The culture of volunteerism at NPS will continue to flourish with programs like Breakfast for Your Brain, honor guard and various volunteer opportunities throughout the Monterey Bay area.

"Whether it is standing in the rain asking for donations or getting my hands dirty, I will do anything I can to help this community," said Bloodworth. "The Navy core values of Honor, Courage, and Commitment are not just something to follow in regards to being on duty; they are values that I align with everyday of my life," he said.

At the heart of the volunteer efforts of those across the entire NPS community is a simple, straightforward idea — helping those in need.

"If I walked in the shoes of those who are less fortunate than me, I would want someone to help me if I desperately needed it," said Bloodworth. "That is why I cannot sit idle knowing that there are less fortunate people out there that need our help."
IN A TIME that requires the fleet to do more with less, somewhere sleep is overlooked in the equation of mission readiness. Navy tradition didn’t necessarily include sleep to begin with, but in the rough waters of fiscal scrutiny, 18-hour workdays are not unheard of for Sailors across the service.

Naval Postgraduate School Department of Operations Research Associate Professor Dr. Nita Shattuck has been working for the past 12 years to change the status quo when it comes to sleep and fatigue in an operational environment.

And through the course of her efforts, has helped more than 10 NPS students complete their master’s theses on the topic since joining the faculty at NPS.

"About a dozen NPS students have helped with this research project along the way," said Shattuck. "Each of them has helped at different stages and I’ve really valued their input and operational experience over the years. It’s been essential."

Associate Professor Dr. Nita Shattuck Naval Postgraduate School Department of Operations Research, along with co-author retired Navy Capt. John Cordle, detailed some of their results in the article, "A Sea Change in Standing Watch," published by the U.S. Naval Institute. And the duo was honored for their efforts at the Surface Navy Association’s Annual Symposium in Springfield, Va., Jan. 15, receiving the SNAs Literary Award for top journal article of the year.

"The award was such a surprise and very humbling but the recognition is not so much about the writing, it’s about addressing the needs of the fleet," said Shattuck. "It’s really about improving the lives of sailors."

The article discussed the benefits of maintaining a circadian rhythm to better match the needs of the human body in a stressful environment. The studies aim to prove that setting the same working and sleeping hours reduces fatigue, and thus fatal errors, significantly in the fleet.

Co-author Shattuck, along with co-author retired Navy Capt. John Cordle, helped conduct studies aboard the USS San Jacinto (CG-56) by implementing a 3/9 watch standing schedule. The schedule, modeled after an idea employed by the German navy, was thought to be unorthodox but proved successful by researchers say, the implementation of a much-needed circadian rhythm.

The crew, where possible, worked three hours on, three hours off, three hours on, followed by 15-hours off. There was some pushback from the "old salts," as Cordle describes them, and it did not work out for every department. In general, however, Shattuck and Cordle found that the shorter watches allowed for better focus and less fatigue in participating Sailors.

Follow-on interest has come about through the Combat and Operations Stress Control (COSC) program, headed by retired Navy Cmdr. Leanne Bradrock. Studies have shown that sleep deprivation is a significant contributing factor to stress.

"Effective and efficient resource allocation is a fundamental task for Supply Corps officers. The operations research curriculum [at NPS] provides a world-class opportunity to study and apply advanced methods for analysis and decision-making." - Lt. John Sprague

NPS Supply Corps Student Honored With Prestigious Batchelder Award

Naval Postgraduate School operations analysis student Lt. John Sprague was officially presented with the Naval League of the United States Vice Adm. Robert F. Batchelder Award by university President, retired Vice Adm. Ronald A. Route, during a small ceremony in Herrmann Hall, Nov. 19. The Batchelder Award is presented annually to select Supply Corps officers based on significant personal contributions to the supply readiness of the Navy’s operating forces.

"Effective and efficient resource allocation is a fundamental task for Supply Corps officers. The operations research curriculum [at NPS] provides a world-class opportunity to study and apply advanced methods for analysis and decision-making." - Lt. John Sprague

NPS Operations Analysis

Effective and efficient resource allocation is a fundamental task for Supply Corps officers. The operations research curriculum [at NPS] provides a world-class opportunity to study and apply advanced methods for analysis and decision-making. - Lt. John Sprague

Operations analysis student Lt. John Sprague, center, is presented with the Navy League of the United States Vice Adm. Robert F. Batchelder Award by NPS President, retired Vice Adm. Ronald A. Route, during a small ceremony in Herrmann Hall, Nov. 19. The Batchelder Award is presented annually to select Supply Corps officers based on significant personal contributions to the supply readiness of the Navy’s operating forces.
Counter Terrorism Exercise in September of 2013. The weeklong exercise, involving 18 nations and more than 800 personnel, utilized multiple planned and surprise scenarios to improve regional capability in transnational counterterrorism. (Photo courtesy NPS Center for Civil-Military Relations)

Senior officials and representatives from several southeast Asia nations gather for a group photo during the ASEAN Defense Ministers Meeting Counter Terrorism Exercise led by members of Special Operations Command — Pacific. "Working together develops regional capacity and the habits of coop- eration we need to solve today’s complex problems," said U.S. Secretary of Defense Chuck Hagel during an address to the ADMM Plus Defense Ministers Meeting in Brunei. "Exercising together builds trust and understanding that reduces the risk of conflict when disputes arise." CCMR Deputy Counter Terrorism Program Director retired Navy Capt. Tim Doorey Doorey helped play a lead role in coordinating the massive exercise, and stressed the stra tegic and economic importance of the ASEAN Plus member states taking part in the exercise. "This exercise involved 872 military and civilian personnel from all 18 ASEAN Plus countries and was the first to be conducted under the auspices of the ADMM-Plus EWG-CT," said Doorey. "More people live inside ADMM-Plus countries than the rest of the world combined, and more than half of the world’s GDP resides in these 18 nations." "The long-term goal of the exercise was to have a common regional procedure in tackling transnational terrorism," added Indonesian Armed Forces Commander Gen. Muhammad Doorey Doorey.

CCMR involvement in the exercise dates back to Feb. 2012, when the Deputy Assistant Secretary of Defense — Special Operations and Low Intensity Conflict approached CCMR for assistance in the preparation of a series of realistic scenarios and the creation of a strategic-level Table Top Exercise (TTX) designed to help ASEAN members states to improve multinational, regional responses to terrorist threats in Southeast Asia. "The decision was made to have a two-year program leading to a major exercise. We were tasked to come up with scenarios that were designed to force regional cooperation," said Doorey.

Counterterrorism is generally treated as a national or law enforcement issue. We wanted to show through realistic scenarios that there are many areas where unilateral, or even bi-lateral, responses to terrorism would likely fail and demonstrated the utility of a multinational effort to eradicate this problem," continued Doorey.

Research into counterterrorism is one of the core areas that CCMR has been addressing since its inception in 2002. "The CCMR’s mission is to build partner capacity and to improve interagency and international coordination and cooperation by addressing civil-military challenges which include, amongst other things, combating terrorism," said CCMR Combating Terrorism Program Manager Paul Shemella.

CCMR-developed counterterrorism scenarios were pitted against four multinational working groups tasked with addressing a major maritime threat against a liquefied natural gas facility or tanker, an attack against a major regional athletic and cultural event with global attendance, and the threat of a Man-Portable Air Defense Systems (MANPADS) in the hands of a sophisticated regional terrorist organization was injected on the last day of the exercise.

"The TTX was very strategic in nature, we looked at the long range work that needs to be done in response to terrorism and piracy," said former NPS Superintendent and CCMR Strategic Communications Specialist, retired Rear Adm. Richard Wells. "The answer to dealing with terrorism is a strategic planning process which includes communicating, building infrastructure, and training together to deal with terrorism."

Organizers strategically placed members of key regional states together in an effort to foster both formal and informal relationships with the potential to persist long after the completion of the exercise. In my group we had Singapore, China, Cambodia and Brunei working together. The idea was to get all of these nations, from diverse cultures and philosophies, working together at the same table for a common goal. The results were astounding," said Wells. "There was no nationalism, the exercise facilitated serious, regional discussion about the common enemy of terrorism."

As the tabletop working groups grappled with counterterrorism strategy and policy, personnel from member states participated in a practical exercise led by members of Special Operations Command — Pacific. The practical exercise consisted of fields exercises and classroom events wherein junior officers and senior enlisted facilitators were exposed to a wide ranging series of topics including IED threat analysis, best practices and anti- terrorism procedures.

"The goal of the practical exercises was to develop counterterrorism capabilities by exchanging best practices and demonstrating the counterterrorism tactics, techniques and procedures among military forces in support of law enforcement and other designated government agencies," said Doorey.

"From my perspective, the ASEAN goal was met with the complexity of bringing 12 different countries under an umbrella of combating a common threat and achieving the same goals for the first time … I feel the exercise was a great success and spearheaded the way for future counterterrorism exercises in the Asia-Pacific region." U.S. Army Sgt. 1st Class Kindu E. Delaleu Asia-Pacific Counter IED Fusion Center

Members of an elite Indonesian counterterrorism group repel an improvised explosive device (IED). (improvised explosive device) Fusion Center. "Many of the participants from partnered nation teams stated that they had not received this type of familiarization before and requested additional material. I felt the exercise was a great success and spearheaded the way for future counterterrorism exercises in the Asia-Pacific region," he added.

Indonesia has a robust, national-police-led counterterrorism effort, but Indonesian leaders acknowledge that force alone will not stop terrorism from occurring and that deterrence must coincide with an on-going commitment to democratic values, freedom of speech, and freedom of assembly.

"Our initiatives and activities range from working with former ter rorists — the re-education and rehabilitation of ex-convicts and their families; the empowerment of religious education institutes; and, the enhancement of awareness in schools – to engagement with the media to generate counter-narratives against radical terrorists," said Retired In donesian Inspector General Ansyaad Mubai, Director of the Indonesian National Counter-Terrorism Agency (BNPT). The BNPT is also working with non-governmental and religious or ganizations to combat extremist-led radicalization efforts by targeting prisons, places of worship, and schools and the media. The Indonesian approach was born of the realization that, within the Indonesian context, kinetic operations were often counter-productive.

"The more physical pressure brought to bear upon them [terrorists], the more militant and radical they become," said Mubai. As the Indonesian, U.S. three-year co-chairmanship of the EWG-CT comes to a close, preparation for the second iteration of exercises and multinational counterterrorism efforts are already underway. Singapore and Australia will assume co-chairmanship for the EWG-CT in April of 2014.
Naval Postgraduate School student Lt. Jerry Wyrick, pictured among the stacks in NPS’ Dudley Knox Library, is one of several students taking advantage of Naval Studies Program funding to perform detailed analyses on behalf of Navy leaders. Wyrick is developing a training program to provide a focused, cyber operations training in a fraction of the normal training time.

Naval Studies Program Pits NPS Student Expertise Against Navy’s Challenges

By Kenneth A. Stewart

THE OFFICE OF THE Secretary of the Navy (SECNAV) has turned to the Naval Postgraduate School and its core of operationally-experienced students and expert faculty to directly address some of the most challenging questions facing the sea services today under the umbrella of the Naval Studies program.

According to NPS leadership, the program “is intended to facilitate rapid studies designed to meet the real-time, research requirements of the Navy’s operational codes,” said NPS Dean of Research Dr. Jeff Paduan. “These studies will provide our sponsors with alternative solutions and several possible courses of action.”

Paduan notes that while NPS has been conducting advanced naval research for decades, the prestigious institution can also answer the needs of Navy leaders interested in finding detailed answers to more immediate, short-term concerns. “We are working to educate the operational science programs out there, but all of them are a minimum of 18 months to two years, with the audacity to question why we do things, but then help us to move forward.”

NPS Associate Professors retired Army Col. Andy Hernandez and Dr. Jonathan Amara lead the E2O effort at NPS. “We want to help enterprises to think about energy differently, and to help them to come up with energy solutions for the Marine Corps’ energy problems,” said Amara. “The E2O program is concerned with helping applications of portable and renewable energy.”

“The investments we are making today in technology and cultural change at the forward edge of the battlefield have the opportunity to reduce our fuel reliance and the number of logistical convoys that feed that need,” continued Caley.

Caley notes that Marine Corps efforts to reduce reliance on traditional fuel sources will increase the operational reach of expeditionary units and save lives as well as dollars. He also insists that the student research being conducted at NPS provides real value to the Marine Corps. “Our students study at NPS and then come back prepared to lead us to a great energy future,” said Caley. “We get tremendous value from the non-uniformed perspective (of NPS faculty). They look at us from outside, with the audacity to question why we do things, then help us to move forward.”

NPS Associate Professors retired Army Col. Andy Hernandez and Dr. Jonathan Amara lead the E2O effort at NPS. “The breadth and depth of what we are trying to do is very large,” said Amara. “The E2O program is concerned with helping applications of portable and renewable energy.”

“Whenever you look at an operational gap, you have to consider the energy usage.”

Program administrators say the program is a win for both the Marine Corps, and the students pursuing energy-related studies. But the NPS-E2O partnership is not just about new technology. Organizers insist that it’s about fundamentally changing the Marine Corps’ culture of energy consumption.

“The breadth and depth of what we are trying to do is very large,” said Hernandez. “We are trying to change the minds of folks, to make them aware of the benefits of saving energy.”

Still, all of this attention to energy conservation and alternative energy sources should be viewed in the context of the Marine Corps’ operational mission. “NPS Senior Marine Corps Representative, Col. Mitchell McCarthy, insists that Marine Corps investments into energy research directly support the Marine Corps’ combat effectiveness." The amount of fuel required to support a single Marine in the field is really astronomical,” said McCarthy. “What we are doing here is finding solutions that will allow us to reduce those fuel needs and focus our logistical trains on those things that we need to use to accomplish our mission. What the E2O program is doing is a combat multiplier.”

NPS, Marine Corps Research Partnership Drives Energy Independence

TOP: NPS Associate Professor retired Army Col. Andy Hernandez, left, and NPS students Marine Corps Capt. Matthew Morse, center, and Lt. Cmdr. Timothy Householder, right, stand amongst a field of photovoltaic panels atop NPS’ Dudley Knox Library. Nov. 20. Hernandez, Morse and Householder are working with the Marine Corps’ Expeditionary Energy Office to address match the Corps’ alternative energy and conservation needs with NPS student research.

BOTTOM: NPS student Lt. Cmdr. Timothy Householder shows off a microelectromechanical system (MEMS) in NPS’ Materials Research Lab. Nov. 20. Householder is working with the Marine Corps’ Expeditionary Energy Office on his NPS research in using MEMS to harvest “waste” energy from military equipment.
Former Chairman of the Joint Chiefs, CNO Keynotes Fall Graduation

By MC3 Danica M. Simans

THE NAVAL POSTGRADUATE SCHOOL honored its latest round of graduates during the 2013 Fall Quarter Graduation Ceremony held in King Auditorium, Dec. 20.

Presiding over a graduation ceremony for the first time, NPS President retired Vice Adm. Ronald A. Route, introduced a fellow operations research graduate in the day’s keynote speaker, retired Adm. Michael G. Mullen, 17th Chairman of the Joint Chiefs of Staff and 28th Chief of Naval Operations. As Mullen took the podium to address the graduating class, the alumnus first expressed his gratitude to the graduates’ families and friends.

“There’s not a graduate here that could succeed without the support of their families,” said Mullen. “Having done this for awhile, I can tell you that you have set the standard for that kind of support and we are eternally grateful.”

He went on to offer his praise to the students for achieving such an accomplishment, and reaching an important milestone in their career.

“Thank you to the students for your service and your dedication. You are beacons for hope, and you set the example for so many different institutions and countries around the world,” Mullen said.

“And it doesn’t stop here. That service is going to be equally, if not more challenging, than that of the past. But that optimism will prove to deliver,” he continued. “As the economy gets better, and as wars come to an end, it is the battalion, shift and squadron commanders who must focus on retaining our best junior officers — many of whom are in this room.”

In closing his remarks, Mullen reminded the graduates that their work is far from over and encouraged them to go forth with a renewed sense of responsibility.

“What I ask of everyone in uniform is that you figure out a way to lead. You make a difference in people’s lives, institutions, and in your countries,” Mullen stressed. “You are just beginning in your learning hill … And there’s a great deal to learn. Continue to learn, grow and expand your comfort zone.”

NPS graduated a total of 373 students earning 377 advanced degrees this quarter. Of note, Mullen’s own son, Lt. Cmdr. John S. Mullen, was a member of the quarter’s graduating class, earning a Master of Business Administration degree.
To the Fleet and Force

The two, large armored combat vehicles positioned on each side of this proud group of NPS alumni is clear evidence they are not celebrating their graduation inside the campus' King Auditorium.

The cohort of 31 students, from the U.S. Army TACOM Life Cycle Management Command (TACOM LCMC) in Warren, Mich., is the latest to complete the Graduate School of Business and Public Policy’s Advanced Acquisition Program (AAP). The AAP is a 12-month, distance-learning program focused on graduate-level defense acquisition and program management education.

“This is a very challenging program requiring you to think hard, work hard, and prepare for even greater challenges,” said Kevin M. Fahey, Program Executive Officer Combat Support & Combat Service Support (PEO CS&CSS) during an address to the graduates at the TACOM LCMC facility in late 2013. “Your graduation is timely, because that’s just the kind of effort we need in today’s challenging environment.”

It would seem the AAP program’s benefits are timely, no matter what acquisition challenges are thrust toward the command, one of the Army’s largest weapon systems research, development and sustainment organizations. Over the past 14 years, at least eight cohorts of 20-30 students have taken the program, at the command’s expense.

“No travel is required by the students whatsoever … NPS takes the education to the students at their workplace … This is why commands of all services continue to buy education products from NPS for their distributed civilian and military workers,” said GSBPP Associate Professor J.D. Dillard, AAP program manager. “We have always felt it to be a very efficient means of delivery.”

NPS’ AAP provides an on-site source for Level III Program Management certification training, and is the only other education provider that provides Defense Acquisition University (DAU) equivalency in Program Management. The curriculum covers acquisition and program management, contract and financial management, acquisition logistics, test and evaluation management, manufacturing and quality assurance as well as software acquisition management.