NPS Says Farewell to Winter Graduates

By Kenneth A. Stewart

The Naval Postgraduate School honored 366 students earning 367 advanced graduate degrees during NPS’ Winter Graduation Ceremony, March 29. Presiding over the ceremony was NPS alumna and Interim President, Rear Adm. Jan E. Tighe. Tighe welcomed graduates and their families and acknowledged the recent work of faculty and staff.

“This institution serves the national security community through advanced graduate education and real world research — you make that mission a success,” said Tighe. “These last four months with you have only reinforced my belief that NPS will remain a vital element in the success of our Navy, our sister services, and our national and international security partners.”

Tighe also recognized the assembled graduates and their families. “You should be justly proud of what you have accomplished here. We are proud of you,” said Tighe. “Your experiences and education have prepared you to become leaders who are at the forefront of resolving the security challenges of your service, nation and the global community.”

“Your experiences and education have prepared you to become leaders who are at the forefront of resolving the security challenges of your service, nation and the global community.” – NPS Interim President Rear. Adm. Jan E. Tighe

Tighe’s remarks were followed by those of former U.S. Atlantic Fleet Commander, retired Adm. Henry H. Mauz, Jr., chairman of the NPS Foundation. Mauz recognized the contribution made by NPS’s world-class faculty. “This faculty has taken years to build. The depth and breadth of our faculty is absolutely outstanding and nationally recognized,” said Mauz.

Mauz spoke of the commitment shared by faculty members who often work long hours with little pay and without the benefit of teaching assistants. “Why do they do it?” asked Mauz. “They do it because they are dedicated and patriotic and because of these students, it’s a joy to work with our students.”

Mauz also thanked the graduating class for their commitment to a “heroic profession.” He encouraged graduates to continue to seek self-improvement, to take care of their subordinates, and to be bold as they executed their duties.

“Go forth and slay dragons!” said Mauz.

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The most important requirement for a successful graduate school is the ability to recruit and develop talented faculty. Over the past two years, we have been fortunate to bring several talented scientists and engineers to NPS as faculty in GSEAS. Unfortunately there isn’t space below for all the great work I see as dean, but here are the accomplishments of a few of them.

Associate Professor Claudia Luhrs joined the Mechanical and Aerospace Engineering Department as a member of the material science group. She has built a nationally recognized research group in nanostructured and multifunctional materials. Professor Luhrs has also worked to build student intern capabilities within NPS, and is the first NPS Chair of the Navy Research Enterprise Internship Program that will result in 19 undergraduate students at NPS this summer.

Assistant Professor Ric Romero of the Electrical and Computer Engineering Department investigates the emerging technology of cognitive radar (CRr). This smart radar is able to respond in real-time to the dynamic changes of targets of interest and the environment. Unlike traditional radar that has limited illumination capability, a CRr is able to dynamically fashion its illumination strategy. Professor Romero’s work will appear in IEEE Transactions on Aerospace and Electronics Systems next month.

Professors Jim Scrofani and Dave Garren from Electrical and Computer Engineering Department, in our National Capital Region office, have established the Maritime Domain Awareness Analytics Group and are exploring innovative approaches to provide commanders and decision makers with improved situational awareness and actionable intelligence in the maritime domain.

Professor Barbara Scarnato joined the Department of Meteorology at the end of September 2012. She studies atmospheric particulates and their impact on the transfer of radiation in various atmospheres — Earth and Mars for example — and their impact on solar and terrestrial radiation. Her primary focus is characterizing the scattering by irregular shaped particles. She plans to build a laboratory at CIRPAS to study aerosol particles under varying conditions.

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Dr. Warren Vaneman, a Professor of Practice in the Department of Systems Engineering, is conducting research in System of Systems Engineering and Integration to help the Space and Naval Warfare Systems Command (SPAWAR) implement Information Technology Technical Authority for the U.S. Navy. One of the key outcomes of this research is an end-to-end process that has been adopted by the SPAWAR Chief Engineer.

Preetha Thulasiraman joined the ECE Department as an Assistant Professor in January 2011 and has been conducting research in two broad areas: wireless networking and cyber communications. One of her current research efforts is focused on the analysis of communication protocols and resource allocation algorithms for unattended ground sensor networks. In addition, her work on cyber physical infrastructure has focused on Smart Grid applications.

Applied Mathematics Professor Jeremy Kozdon’s research interests relate to the development of stable and accurate methods for the simulation of coupled, multi-physics systems. Before arriving at NPS, he was working at Stanford on methods that are being used to complete full physics simulations of the March 11, 2011, Tohoku earthquake in east Japan.

Applied Mathematics Professor Lucas Wilcox’s research interests focus on scientific computation with an emphasis on the numerical solution of partial differential equations using high-order methods. As a National Science Foundation VIGRE graduate student he was given the opportunity to conduct research at Brown University, Bell Labs, and Sandia National Laboratories. During this time, he researched higher-order numerical methods for solving time-harmonic Maxwell’s equations, including hp-adaptive discontinuous Galerkin methods.
Philanthropy, Campus Interests Top NPS Student Council Agenda
By Amanda D. Stein

For a number of students on campus, being a part of the Naval Postgraduate School community means an opportunity to collaborate with their peers, and to get students and leadership talking about the issues of importance to those who walk the halls of NPS each day.

The President’s Student Council (PSC) is made up of three such student-elected leaders — Chairman Lt. Kris Yost, Vice-Chairman Lt. Art Zepf, and Recorder Lt. Mary-Elizabeth Doty — as well as various members of the student body in attendance at the monthly council meetings.

"Many students may not really know what the council can do for them," said Yost. "We are here to inquire about any academic, administrative or quality of life issues at NPS and to take them up with the appropriate NPS leadership. We are also here to be a sounding board for the NPS President and Dean of Students for issues that they feel need to be addressed."

Among the initiatives most recently on the PSC’s agenda has been an effort to bring attention to a little-known website where students can buy and sell their used textbooks with others on campus. Students can access the book exchange website through the PSC page on the NPS intranet, through the current students section of the NPS website, among others, and word is quickly spreading.

“I observed early on that the book-buying process was a little inconvenient in that students were scrambling with online venues to find books for class … It seemed pretty obvious to me that we, as students, already have the books," said Graduate School of Business and Public Policy student Lt. Graham Fletterich. "We are taking a lot of the same classes, so why can’t we exchange books amongst ourselves?"

The PSC is also actively involved in making a difference beyond the gates of NPS, with volunteerism and community outreach one of the major ongoing goals of the council.

A growing number of students have been pitching in to help the Veterans Transition Center (VTC) through donations of clothes and household goods. The council became involved with the VTC under the direction of Maj. Ray Erickson. The center provides food, clothes and services to the homeless veterans of Monterey County, and also provides housing for as many as possible at their still-growing facility in the refurbished barracks on Fort Ord. After facilitating a donation drive at NPS last October, the sum of their donations topped two tons, and the organization’s facility ran out of space to hold it all.

“We gave them so much stuff that they had nowhere to put it. And they had to ask us to put a time-out on bringing donations for now until they could make space for it all," said Erickson. "But we do have an opportunity to donate some manpower this month by selling tickets for their fundraiser barbecue in May.”

The second annual VTC barbecue will welcome members of the community to enjoy a lunch and tour of the center’s facilities, with proceeds from ticket sales going back into funding the VTC programs.

Send your faculty news and notes to update@nps.edu.
Every day, the men and women of the armed forces put themselves in harm’s way. Recent NPS graduates, U.S. Army Majors Charles Ergenbright and Sean Hubbard, are no different. As Special Forces officers, they accept the risks to themselves for the service they have committed to on behalf of their country. What they don’t accept, however, is the extraordinary tragedy of mass shootings that take innocent lives in schools, public spaces and even military bases far too often across the United States and abroad.

While in the NPS Defense Analysis program, Ergenbright and Hubbard completed a detailed thesis outlining proposed Victim Initiated Mitigation (VIM) upgrades to high-occupancy facilities and institutions of higher education to minimize the loss of life from active shooters.

At the time they completed their thesis, the tragedy that would strike Sandy Hook Elementary School in late 2012 was a distant nightmare that had not yet occurred. But following that tragic loss of life, the officers, and their faculty advisors, knew this work was critical.

“The rate of kill is tied to incident duration,” explained Ergenbright. “And really what we found as a missing variable was the lack of a victim initiated mitigation system, which we liken to a fire alarm. The fire alarm has a standardized operation, and a standardized understanding of what is coming,” he continued. “And there is also a standardized response. There is nothing like that for active shooters.”

The VIM system includes several components beyond an alarm. It’s a system of emergency call boxes in all public areas of the campus; electromagnetic door locks linked to the call boxes; a mobile situational awareness device capable of linking directly to the call boxes; key fob and proxy access for first responders to all buildings on campus; and a remotely-located manned Incident Command Center (ICC) from which the full system and appropriate safety protocols can be managed.

The goal of the VIM system is many-fold. It would allow two-way communication for victims, ICC personnel and emergency responders to provide more specific and timely tactical information. The system can also promptly lock down the campus in specific zones, or as a whole, based on tactical information, improving the chances of isolating the shooter and improving law enforcement response time. The system would also notify students, staff and faculty of an emergency with pre-programmed notifications via “any networked media device.”

Recent tragedies have sparked searing national debate on gun control measures and the mental health treatment system, but this highly-charged debate is independent from the students’ research, said NPS Department of Defense Analysis Professor Doowan Lee, thesis advisor for Ergenbright and Hubbard.

“I think this is where their research is exceedingly unique, because instead of being politically driven, their research is really about the nature of active shooter scenarios and finding a systematic solution to mitigate [the resulting] violence,” he said.

The Naval Postgraduate School Consortium for Robotics and Unmanned Systems Education and Research (CRUSER) recently reached a program milestone — it signed up its 1,000th member.

CRUSER began just two years ago with seven members, and has since ballooned into a clearing-house of sorts that provides both a collaborative environment and a community of interest for the advancement of unmanned systems education and research.

“In February 2011, Under Secretary of the Navy Robert Work charged NPS to create a DOD-wide community of interest to exchange research and experimentation results for unmanned systems,” said CRUSER Director of Innovation, retired Navy Capt. Carol J. O’Neal.

CRUSER’s interests, and those of its members, are far-reaching and intricately detailed. Its researchers are grounded in the Navy’s most critical missions and are looking for workable solutions to Navy, Marine Corps, and defense-related problems.

Members of the CRUSER community at NPS include both researchers from the uniformed services and academia. Outside NPS, the CRUSER community has members from all branches of the military, several government agencies, industry, other academic institutions and beyond.
Distinguished Professor Recognized for 25 Years of Service

*By MC2 Chablis J. Torrence*

On March 7, NPS faculty and staff gathered to recognize Distinguished Professor Emeritus Thomas Bruneau for his 25 years of service to the Navy.

“We are here to honor a great guy who probably hired most of the people in this room,” said National Security Affairs Chair, Associate Professor Harold Trinkunas, as he delivered congratulatory remarks.

Bruneau served as chair of the National Security Affairs department and director of the Center for Civil-Military Relations. He is a noted expert on Latin American politics, particularly Brazilian politics, and he has written extensively on issues related to civil-military relations and democratization.

Bruneau has published several books including “Patriots for Profit: Contractors and the Military in U.S. National Security,” and “The Routledge Handbook of Civil-Military Relations.”

In 2004, he was awarded the Navy Superior Civilian Service Award, the second highest honorary award the Chief of Naval Operations may bestow on a civilian employee in the Department of the Navy and the highest award granted at the major claimant level.

Bruneau will still have an active presence on campus and continue to serve on thesis committees and periodically teach classes.

Robotic Systems Professor Wins 2013 Hamming Interdisciplinary Award

*By MC2 Chablis J. Torrence*

The Consortium for Robotics and Unmanned Systems Education and Research’s (CRUSER) Director of Education and Research, Assistant Professor Timothy Chung, has been named the 2013 Richard W. Hamming Annual Faculty Award for Interdisciplinary Achievement winner.

“It’s an incredible honor, and a testament to the types of research and opportunities that our students provide,” said Chung. “Students are reminding us that it’s not about the [departments they specialize in] but the mission as a whole. And this honor is a good reminder of that.”

The annual faculty award is named for NPS Professor Emeritus Dr. Richard W. Hamming. It highlights a faculty member that demonstrates commitment to interdisciplinary scholarship and exceptional teaching skills.

“Dr. Chung’s interdisciplinary education and research approach is a perfect reflection of what Dr. Hamming’s family envisioned when standing up this important award,” said Kline. “He recognizes, to realize the vision of integrating unmanned systems into naval operations requires diverse talents to address complex issues.”

“Dr. Chung’s commitment to the NPS mission is demonstrated by his inspiration for interdisciplinary and collaborative research,” said NPS Acting Provost, Dr. O. Douglas Moses.

CRUSER Director and Operations Research Professor of Practice Jeff Kline works closely with Chung, and recognized the value of his contributions to the NPS community.

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Bruneau will still have an active presence on campus and continue to serve on thesis committees and periodically teach classes.

Assistant Professor Timothy Chung

Thesis Research Working Group Inaugural Event

The U.S. Marine Corps and Coast Guard are seeking to better leverage NPS’ talented faculty, students, and research capabilities through increased collaboration. To that end, the Marine Corps Combat Development Command Commanding General chartered the Thesis Research Working Group (TRWG) in November of 2012. Subsequently, the U.S. Coast Guard has joined the effort. The result is a semi-annual, three-day event, held on campus, to connect faculty and students with potential research sponsors.

The TRWG has three primary goals. The first is to build a standard, repeatable process; the second is to institutionalize the working group within the Marine Corps, Coast Guard, and NPS; and the third is to leverage existing NPS research capabilities that may be underutilized by each service.

The inaugural TRWG event will take place Apr 22–24, 2013, and will begin with a plenary session at 8:00 a.m. in Glasgow 102, to be followed by breakout sessions with the sponsors in the Dudley Knox Library and Ingersoll Hall. All interested faculty and students, regardless of service or nationality, are encouraged to participate in helping the Marine Corps and Coast Guard address current and future challenges and opportunities.

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Former Longtime NPS Professor Named AIAA Honorary Fellow

By Amanda D. Stein

Not many people are presented with the honor of being named an American Institute of Aeronautics and Astronautics (AIAA) Honorary Fellow. But for a former NPS distinguished professor who dedicated his career to aeronautics and the naval aviation community, the honor is simply “the red cherry on top of the whipped cream of a hot fudge sundae.”

Dr. Allen Fuhs looked to a career in aerospace before the inception of NASA, at a time when the field was so uncertain that his adviser encouraged him to “choose a stable career, earn your Master of Science in Mechanical Engineering and obtain a good job at Chicago Bridge and Iron.” Fortunately for the countless students and faculty who would come to know Fuhs in his time as a Chairman of Aeronautics and Founder of the Space Systems Academic Group (SSAG), he could not be deterred.

“It’s hard to pinpoint one thing that drew me to aeronautics,” Fuhs said. “There are many things. But I guess I just found it interesting. Most any aspect of it has a certain amount of fascination.”

On May 8, at the AIAA Aerospace Spotlight Awards Gala in Washington D.C., Fuhs will be recognized as an AIAA Honorary Fellow, joining late astronaut Neil Armstrong; first AIAA Honorary Fellow, aviation pioneer Orville Wright; and former Associate Administrator for the NASA Office of Manned Space Flight George Mueller, among others. Fuhs is the first member of the Naval Postgraduate School to receive this honor.

“The selection of Distinguished Professor Fuhs for the ranks of AIAA Honorary Fellow is an exceptional honor, and one that is well deserved. Dr. Fuhs is a true pioneer in aeronautics, his foresight in establishing the Space Systems Academic Group more than three decades ago established his legacy here at NPS,” said NPS Interim President Rear Adm. Jan E. Tighe. “Dr. Fuhs’ dedication to his profession will continue to prepare officers for the critical role of space in modern naval and defense operations for our national security.”

After years of working in industry, Fuhs joined NPS as a faculty member in 1966. Still serving as a Navy reservist, he was committed to promoting aerospace studies for the Naval community, and saw an opportunity to help students and faculty further the Navy’s space mission through the development of the SSAG in 1981.

Today, the SSAG serves as a hub for defense-focused space studies, bringing together faculty from across disciplines to provide students in the Space Systems Engineering and Space System Operations curricula with hands-on experience with space systems. Fuhs served as Founder and Chairman of the group until his retirement from the university in 1987.

Fuhs’ involvement in the establishment of the SSAG and activities within the AIAA earned him a place in the New Mexico Museum of Space History’s International Space Hall of Fame. Through the AIAA, he became familiar with many prominent members of the aerospace community, and understood the value in encouraging students to strive for greatness in and beyond their military careers.

“I met General ‘Jimmy’ Doolittle through my AIAA activities and asked if he would be willing to present the AIAA Admiral William Adger Moffett Award to the outstanding graduate of the NPS Aeronautical Engineering Department,” said Fuhs. “He graciously accepted. It was a great opportunity for the students to interact with someone who had such a distinguished military career.

“I used to tell my students, ‘You are going to have a second career when you retire from the military, and one of your greatest assets will be your NPS education.’”

Focus On … A Student’s Ally

A Monthly Look at Names and Faces on Campus

With deadlines and exams always lurking around the corner, students at NPS could use an ally to take care of the extras — those important little details in the administrative process. Someone to support them from the moment they register for classes until they receive their degree or certificate. Mechanical and Aerospace Engineering Department Educational Technician Sandra Stephenson provides that helping hand to get them through.

With a 29-year career at NPS, Stephenson’s job is to provide support to students of five different curricula by ensuring they are prepared and advancing in classes at an acceptable rate.

While completing the tasks that are required of her, Stephenson exceeds expectations by being a team player with a positive attitude.

“Positivity is important,” Stephenson said. “It’s important that you love what you do. As an education technician, we’re the first point of contact for these students and we have to be open and welcoming so that we can lead them on a path of success. That’s critical.”

Stephenson works closely with the programming officer, admissions office, international office, and a number of academic associates to ensure that students are properly equipped with the resources they need for their curriculum.

“It’s definitely a team sport,” she said. “I’m just glad to be a part of a group that’s so willing to work together collectively. To watch the students we help throughout their time at NPS graduate and go on to do amazing things … It all comes full circle.”
Any Day at NPS ...

Incoming NPS Dean of Students, Navy Capt. Tom MacRae, right, shares a laugh with the outgoing dean, Capt. Matt “Dutch” Vandersluis, left, Mar. 1. MacRae transitioned into the Dean of Students office following his assignment as the Military Associate Dean for the NPS Graduate School of Business and Public Policy. (U.S. Navy photo by MC1 Leonardo Carrillo)


Lt. Kris Yost is the Chairman of the President’s Student Council. Visit the PSC on the intranet at http://intranet/psc/index.html.

Natural Resource Specialists Vicki Taber, Todd Wills and Installation Energy Manager Jermaine Starks, from right to left, stand atop NPS’ Dudley Knox Library near a row of photovoltaic cells. Naval Support Activity (NSA) Monterey, home to NPS, was recently awarded two prestigious Chief of Naval Operations (CNO) awards for cultural resource management and installation sustainability. (U.S. Navy Photo by Kenneth A. Stewart)

Lt. Kris Yost, Chairman President’s Student Council

As all of us who wear the uniform know, we are always aware and thankful of those who have gone before us in the service of our nation, and the sacrifices made for our freedom. Through our history there have been many battles, some more famous than others, but each of them are equally significant. In the Navy, we pay homage to our service and our veterans with events like the Navy Ball and December 7th Remembrance Dinner.

On June 1, NPS will be hosting the Battle of Midway dinner to remember the heroic actions of our service members during that battle in the summer of 1942. The dinner is led by the President’s Student Council, with support from the Monterey Bay Commandery of the Naval Order and the Monterey Peninsula Council of the Navy League. The Honorary President of the Mess will be NPS Interim President, Rear Adm. Jan E. Tighe. Naval Support Activity Monterey Commanding Officer Capt. Gerral David will be the President of the Mess with support from NPS student, Marine Corps Capt. Milad Afkham. The guest speaker is Dean Emeritus, retired Capt. Wayne P. Hughes, Jr.

This event will be a formal dining-out and the grog bowl will be present! Tickets on sale starting April 1 at www.nps.edu/midway or at the quarterdeck ITT office. As always, if you have any questions please do not hesitate to contact me at klyost@nps.edu.

Have a story to share? Institutional Advancement is constantly seeking interesting news and stories for Update NPS. Send your tips to update@nps.edu.
On Campus this Month

April 3
Martin Eberhard
Founder, Tesla Motors
Defense Energy Speakers Seminar
POC Gian Duri, (831) 656-3102

April 11
Robots in the Roses Research Fair
Spruance Plaza
POC Lisa Trawick, (831) 656-2490

April 20
113th Submarine Ball
Barbara McNitt Ballroom
POC Steve Hunt, (831) 656-2725

April 22–24
U.S. Marine Corps and U.S. Coast Guard
Thesis Research Working Group
POC Capt. Tony Pollman, (831) 656-2794

April 26
Tom Isaacs
Lead Advisor, Dept. of Energy
Blue Ribbon Commission on U.S. Nuclear Future
Defense Energy Speakers Seminar
POC Gian Duri, (831) 656-3102

April 27
International Day
POC International Programs Office
(831) 656-2186

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Historical Highlights

This cover of the 1951 Lucky Bag seems to demonstrate that graduate school might be in their future as Midshipmen march across the U.S. to Monterey. This is one of the many items currently being digitized through a collaborative effort among the Dudley Knox Library, U.S. Naval Academy Nimitz Library, Naval War College Henry E. Eccles Library, and the non-profit Internet Archive to share the rich resources in our libraries with a broader audience. NPS’ very own CALHOUN already provides access to more than 28,000 such items, including NPS theses, dissertations and technical reports.

The postgraduate school moved lock, stock and wind tunnel across the nation, from Annapolis to Monterey in December 1951. The coast-to-coast move involved 500 students; about 100 faculty and staff; and thousands of pounds of books and research equipment. Rear Adm. Ernest E. Herrmann supervised the move that pumped new vitality into the Navy’s efforts to advance naval science and technology.

Historical Highlights are provided by the Dudley Knox Library.