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2017-10

**Update NPS / October 2017**

Naval Postgraduate School (U.S.)
Monterey, California: Naval Postgraduate School

http://hdl.handle.net/10945/56054

*Downloaded from NPS Archive: Calhoun*
Vice Chief Celebrates Summer Quarter’s Graduating Class

By MC1 Lewis Hunsaker

The Naval Postgraduate School bid farewell to 298 graduates earning 301 advanced degrees, including 23 international students from eight nations, during the 2017 Summer Quarter Graduation ceremony in King Auditorium, Sept. 22.

“Thank you for having me here today,” said commencement speaker Adm. Bill Moran, Vice Chief of Naval Operations, “There is probably no better place to be on the planet.

“Today marks the culmination of a lot of hard work with the achievement of your degree from a fantastic educational institution,” he said, highlighting the Navy’s need for critical, innovative thinkers in the fleet.

But in the time students have been at NPS preparing for this moment, Moran noted, the world outside has continued on, with more and more people competing for limited resources, improved capabilities, and a technological advantage ... And doing it all at an exponentially faster pace.

“Some of these competitors pose real threats, some are direct adversaries, and some are simply out there to peacefully compete for limited resources,” Moran noted. “But all of them can create problems for all of us.”

In the past, he reflected, since around the time the Berlin Wall fell nearly 30 years ago, the U.S. hasn’t needed to compete.

“We have held what is often described as an asymmetric advantage on many fronts and domains,” Moran said. “For a time, we dominated cyber and space, but we watched as all of these domains became accessible, even on the fringes.

“It feels like, as the pace of technology is advancing at an expediential rate, the playing field is starting to level. This is where you come in, as graduates of this institution,” he stressed.

With a greater demand on technologies and capabilities, “We need to move the innovation curve upward and outward, and you know how to do that,” Moran noted.

“NPS graduates have a unique way of looking at problems and collaborating to find solutions. We need creative solutions and creative leaders, yesterday. Luckily, we have 50 percent of that equation solved and figured out here today,” he added.
Ever since the dawn of the Internet and the dot-com boom of the 90s, almost every part of day-to-day life has dramatically changed. Where we once relied on paper maps and compasses, personal GPSs built into our phones take their place. We see retail stores quickly being replaced by online shopping, and everything from record keeping to personal communication now handled within the digital sphere.

From September 22-24 in Boston, the Naval Postgraduate School (NPS) teamed up with partners from the Massachusetts Institute of Technology’s (MIT) Computer Science and Artificial Intelligence Laboratory (CSAIL), along with members of the technology industry such as Booz Allen Hamilton, Spark Cognition, Spigit and many others, to present Hack the Machine, a hands on digital experience to inspire top minds throughout industry and academia to bring innovation and ideas to the world of cybersecurity in the maritime domain.

“The biggest cyber threat that we have is our ability to generate capabilities, algorithms and code at a pace that matches organizations’, both nation states and others, ability to innovate attacks,” said Director of the NPS Center for Cyber Warfare and founder of Hack the Machine, Cmdr. Zac Staples. “If we build defenses and offenses in the same industrial model that we build ships and airplanes, which is a seven, eight, sometimes a 10-year development cycle, then we will lose the innovation battle every time. The way you get ahead is you get people excited to work on national security problems and that is what Hack the Machine does.”

Dubbed as the “Blue Angels for geeks,” Hack the Machine kicked off honoring the history of U.S. Navy technology aboard the world’s oldest commissioned warship, the USS Constitution. Following the kick off, the event took approximately 400 participants to the halls of MIT’s CSAIL for two days of collaboration and problem solving.

“This event saw members of government, academia, entrepreneurs, industry and innovators working together to think about maritime security in a very unique way,” said Deputy Chief of Naval Operations for Information Warfare and Director of Naval Intelligence, Vice Adm. Jan Tighe, as part of her closing remarks for the event.

“Almost everything I saw today from all of the teams throughout the event had direct applicability to helping the Navy accomplish its mission,” she added.

The event featured the perspectives from Navy, academic and industry cybersecurity experts during a variety of presentations offered to the diverse group of participants.

“The power of Hack the Machine is that it is not innovation theater, it’s people getting together and doing something different instead of just talking about it,” said Staples. “These are real world challenges in actual maritime hardware. We are using actual data sets from engine rooms all over the world, and we are tackling a problem on disaster relief that couldn’t be more timely than it is now.”

Participants were broken up into groups to cooperate on three distinct challenges that were referred to as tracks.

“One aspect of Hack the Machine that is a huge interest to me, is that it provides a system that is realistic enough to be an example of what it is like to hack into a cyber physical system, and for that matter, what it would be like to defend one,” said Principal Research Scientist at MIT CSAIL, Howard Shrobe.

“This represents a big opportunity to work with the operational side of this community,” Shrobe continued. “Often in scenarios like these, the operator knows what the problem is but not necessarily the solution. Having that real-world input is deeply beneficial to figuring out what the solutions look like, and to then bring those solutions into reality.”

Hack the Machine, Boston represents the third iteration of the event, with previous events held in Austin, Texas and in San Francisco. The Navy has hosted these events at technological hubs, instead of military bases, in an effort to attract an emerging group of highly-skilled technology and software experts.

“I have been to hackathons before, but this was definitely the most collaborative and diverse that I have been to. It was great to be in an environment that had so many different inputs,” said Krishna Gadia, a software developer for Computer Associates Technologies, and fellow member of Navy 311. “Working with the Navy really helped in orienting us on how things function, and how we wanted to achieve different tasks. This was a great learning experience for me and I would definitely come again in the future.”
NPS Welcomes New Chief of Staff

By MC1 Lewis Hunsaker

NPS welcomed its newest Chief of Staff (CoS), U.S. Navy Capt. Mike Ward to the university this month. And while Ward is new to the position, he is not new to NPS, graduating from the university’s Executive Master of Business Administration (EMBA) program via distance learning in 2006.

“In 2004, while on shore tour in Norfolk, I jumped at enrolling in the newly established NPS EMBA program. And while the program was challenging, I really enjoyed the educational experience, and it no doubt benefitted my career and professional development,” Ward said. “Coming to NPS as CoS, it was exciting for me to meet again with the professionals who run the program, and meet with one of my favorite EMBA professors, Dr. David Henderson, before his retirement this month.”

Designated a Naval Flight Officer in December 1990, Ward accumulated more than 3,100 flight hours and 595 carrier arrested landings supporting peacekeeping operations in the former Yugoslavia as well as in Operation Southern Watch, Operation Iraqi Freedom and Operation Enduring Freedom. Ward comes to NPS following a tour as Comptroller for U.S. Naval Forces Europe/U.S. Naval Forces Africa/U.S. Sixth Fleet (NAVEUR/NAVAF) in Naples, Italy.

“As a ‘Navy Brat’ dependent, I always wanted to join the Navy and fly airplanes off aircraft carriers, and that was my enduring motivation to join the Navy after graduating college,” Ward recalls. “My 28-year career has been a tremendous personal and professional experience and it’s taken my family all over the U.S. in addition to multiple overseas tours.

“My most recent experience as Comptroller in NAVEUR/NAVAF Naples, Italy was unique and challenging as a career aviator, but it’s definitely prepared me to work outside my comfort zone and I know it will help me as the NPS CoS,” he added.

Ward has spent his first few weeks on campus getting a crash course in all things NPS, involved in countless meetings and briefs. As he looks ahead to his tenure as NPS’ senior military officer, he says there are definitely opportunities for the Chief of Staff to assist in advancing NPS’ unique mission of graduate education and relevant research.

“Thanks to a thorough and informative turnover period with Col. Todd Lyons, I was able to get a clear picture of the NPS mission and vision, as well as its organization and processes,” Ward stressed. “I’m excited to be part of such a tremendous team as we focus on providing advanced education to the military’s future leaders and enable the relevant and game-changing research.”

NPS Department of Defense Analysis (DA) Associate Professor Heather Gregg is the recipient of the 2017 Richard W. Hamming Annual Faculty Award for Achievement in Teaching, recognizing her exceptional work in the classroom as well as her support of NPS students through thesis supervision.

“Dr. Gregg has continually distinguished herself in the classroom since coming to NPS. She has developed several unique classes for the DA curriculum, including ‘The Rise of Religious Violence’ and ‘Culture and Influence,’ both of which are topics of importance to DA students,” wrote University Provost and Academic Dean Dr. Steven R. Lerman in a campus-wide message announcing Gregg’s selection.

“Her courses are consistently ranked among the top classes in the DA Department. Dr. Gregg has also taught numerous small, specialized seminars, including a seminar on the creation of human domain as the sixth domain of warfighting, which led to a peer-reviewed journal article written in collaboration with seven Defense Analysis students,” Lerman added.

Now in her 11th year teaching at NPS, Gregg says she is surprised and humbled by her selection.

“I am so truly honored to win this award, teaching is such a privilege at NPS,” Gregg said. “It has been so wonderful to work with all of the students over the past decade, I have learned so much from them. The classroom environment at NPS has been so dynamic. The students are tough but they are interesting, fascinating, dedicated and hard-working, and I’m just really honored to receive this award and I do this on their behalf.”

In addition to Gregg’s experience on campus, she has also traveled to several regions of conflict including Palestine and the West Bank, and the former Yugoslavia. She considers being able to reach back to her students who have redeployed just as important as having them in the classroom.
Bells Across America Honors Fallen Sailors

By Melinda Larson, NSAM Public Affairs

A bell tolled for each of the 182 Sailors who died while on active duty over the past year during the second annual “Bells Across America for Fallen Service Members” ceremony, Sept. 21.

Naval Support Activity Monterey (NSAM) and the Naval Postgraduate School joined Navy installations throughout the continental United States during the simultaneous memorial for the fallen.

“The names represent just a few of the many who have given their lives for our great nation. The names we read include our brothers and sisters who left us too soon,” said Navy Capt. Rich Wiley, NSAM Commanding Officer, during his opening remarks. “Among the names are those of our shipmates who died at sea on USS John S. McCain and USS Fitzgerald.”

Following the commanding officer’s opening remarks, a mix of 15 civilian and active-duty military staff members took turns reading the names of the 182 Sailors who died from Sept. 1, 2016 to Sept. 1, 2017. After each name was read, Religious Program Specialist 2nd Class John Koback rang a bell. A final succession of four bells was rung for all fallen service men and women who have served in the armed forces of the United States.

“The Navy Gold Star program designed the ceremony to recognize and deliver on the Navy’s commitment to surviving families of fallen service members. The event coincided with Gold Star Mother’s and Family Day, which is observed the last Sunday in September,” said the event’s organizer, Amanda Keesee, educational services facilitator at the NSAM Fleet and Family Support Center.

Two Gold Star Families attended the event in honor of their loved ones, the parents of Chief Special Boat Operator Zacharias E. Buob from San Jose, and the sister and niece of Aviation Ordnanceman 1st Class Albert J. Sarkis III who traveled from Sacramento.

The Navy Gold Star program was established on Oct. 1, 2014, to help provide continuing support for surviving family members of fallen service members. The program honors Gold Star Families throughout the year by hosting events that pay tribute to their lost loved ones, providing resources and opportunities to connect with one another and to their Navy family.

Students’ Spacecraft Design Projects Reviewed by Industry, DOD Leaders

By MC1 Lewis Hunsaker

NPS Mechanical and Aerospace Engineering (MAE) Distinguished Professor Brij Agrawal welcomed students, staff and faculty, as well as more than 20 leading experts in spacecraft design, to this year’s Spacecraft Design Review in the MAE Auditorium, Sept. 14. The Spacecraft Design Review offers students feedback on their design projects directly from seasoned, space experts in the DOD and industry.

“The design course is comprised of three quarters that are completed in sequence, starting with the requirements of a spacecraft mission from the sponsor of the design,” said Agrawal, who launched the review in 1989 when he came to NPS. “The course helps students to become good spacecraft system engineers, and to optimize spacecraft design with cost constraints and performance requirements and how one subsystem design influences the other subsystems.”

Other universities focus on one spacecraft subsystem, Agrawal says, but NPS focuses on the entire spacecraft. “It’s a very unique program,” he added.

“Students find this course very useful as they go to work in spacecraft program offices,” continued Agrawal. “Due to the gained experience, these students are sought after to work in places like the National Reconnaissance Office or in industry areas after the military.”

The visiting reviewers were very impressed with the outcome and provided guidance to the students, added Agrawal. “NPS can excel in multidisciplinary areas as shown by this event and it is recognized by DoD, NASA, and industry experts,” concluded Agrawal.
CRUSER Hosts Warfare Innovation Workshop on Hybrid War in an Urban Littoral Environment

By MC2 Michael Ehrlich


The workshop brought together university students as well as members of industry, Navy laboratories, system commands and academia to explore innovative concepts in future warfare scenarios, with the top ideas becoming the foundation for future student research and exploration over the course of the next year.

Deputy Assistant Secretary of the Navy (DASN) for Unmanned Systems, retired U.S. Marine Corps Brig. Gen. Frank Kelley was a constant participant in the workshop, including a panel discussion with NPS faculty, as well as offering feedback and advice as each student team developed their counter scenario.

“What is the Navy’s plan for unmanned systems? How will we apply emerging technologies to the way we fight? How might emerging technologies and joint combined coalition forces contribute to distributed maritime operations?” Kelley asked. “We do a lot of that in the Pentagon, and in our shop we really focus on the unmanned systems aspects. And we don’t get to spend a lot of time in discussions. We are very linear and we keep things moving.”

While the concept generation ideas are futuroistic, NPS Professor of Practice retired Navy Capt. Jeff Kline reiterates how the WIW sets the stage for future work in the classroom, the ultimate goal of the innovation workshop.

“Each year, the school takes a broad topic of interest to the Navy, last year was the CNO’s direction on how to strengthen naval forces at sea. This year, we are taking a specific look at strategic maritime operations. These are concepts that the U.S. Fleet Forces Command and Navy Warfare Development Command are looking at right now,” said Kline.

Conrad Chair Honored with Distinguished Alumnus Award

By MC1 Lewis Hunsaker

NPS President retired Vice Adm. Ronald A. Route surprised NPS alumnus retired Vice Adm. John T. “Terry” Blake with the Distinguished Alumnus Award during a class session in Ingersoll Hall, Sept. 7. Blake received his Master of Science in Financial Management from NPS in December 1987, and currently serves as the Conrad Chair in the university’s Graduate School of Business and Public Policy.

“This award is presented to a Naval Postgraduate School alumnus who has demonstrated extraordinary leadership, achieved a distinguished career in the DOD, and provides valuable support of graduates at NPS,” said Route. “I feel so strongly about the great work that Admiral Blake has done, not just over his time in the Navy, but also with our Conrad Scholar program.”

Blake served more than 37 years in the U.S. Navy before retiring in February 2013. He most recently served as the Deputy Chief of Naval Operations for Integration of Capabilities and Resources (OPNAV N8) and as the Navy’s Chief Financial Officer, where he was charged with planning, programming and executing the Navy’s budget.

“My initial reaction to the award was one of surprise when Admiral Route came in the classroom and started reading the award citation. I am both honored and humbled by the award,” said Blake. “I worked with a lot of great folks over the years and they are the ones who deserve this honor. I can tell you that when I was sitting in the classrooms in Ingersoll some 30 years ago, I never expected to make such extensive use of my finance degree or to spend almost half my career in Washington in the finance world.”

Among his many assignments, Blake held eight different positions in the Pentagon all of them requiring an FM specialty. He also commanded the destroyer USS O’Brien (DD 975), guided-missile cruiser USS Normandy (CG 60), and served as Commander, Carrier Strike Group 11.

Lt. Sam Murphy, a student in NPS’ mechanical engineering program, discovered a pair of historic 1950s-era programs he found while browsing in an antique mall on Cannery Row in Monterey.

“They were on a wall display amongst a section with assorted magazines and photographs,” said Murphy. “I glossed over them at first, but then recognized the style on the covers and realized what they were. A closer look at them, and I realized how old they were and it was pretty striking. I believe one of the programs even showed that Fleet Admiral Nimitz was in attendance.”

Dated May 31, 1956, the Dedication of Buildings program, with then Secretary of the Navy the Honorable Charles S. Thomas and Fleet Admiral Chester W. Nimitz on hand for the ceremony, honored the namesakes for the university’s academic quad, dedicating Herrmann, King, Root, Spanagel, Halligan and Bullard Halls.

The second piece, a Graduation Ceremony program for the NPS Engineering School dated June 18, 1953, honors the conferring of degrees for the university’s bachelor and master of science degree graduates, with then Secretary of the Navy the Honorable Robert B. Anderson offering the commencement address.

Murphy says he has decided to donate the programs to NPS’ Dudley Knox Library.

“The Dudley Knox Library welcomes contributions of historic documents and images about NPS history, as well as NPS students, faculty and staff,” said University Librarian Eleanor Uhlinger. “By preserving these materials and providing access to them through the Library’s Special Collections & Archives, we preserve NPS history for future generations.”

The programs will be on display in DKL’s Special Collections and Archives, and can viewed in the NPS archive, Calhoun, at http://calhoun.nps.edu/
NPS, NSA Monterey Communities Commit to Never Forget

By MC2 Michael Ehrlich

NPS students, faculty and staff joined Naval Support Activity Monterey personnel on the Quarterdeck of Herrmann Hall for a commemoration ceremony, Sept. 11, in remembrance of the largest terrorist attack ever on U.S. soil.

Retired New York Police Department (NYPD) Lt. John Comiskey addressed the crowd, intimately describing the emotions he experienced and the memories he holds on to, honoring his colleagues who served on the front line at ground zero.

“I, like many of us here, remember where I was on 9/11, I was at ground zero,” said Comiskey, currently a student at NPS’ Center for Homeland Defense and Security (CHDS). “I was with my brothers from the NYC fire department, the port authority police department, the national guard, and many others.

“I remember that we successfully evacuated 25,000 people, probably one of the most arduous and stressful rescue operations in the history of public safety,” he continued. “I remember that 23 of my brothers in the squad would not return home, 343 New York city fire officers would not return home, 37 port authority police officers would not return home. I remember ground zero, in the middle of operations, being told that the Pentagon had been struck.”

NPS President retired Vice Adm. Ronald A. Route was in the Pentagon on the morning of September 11, 2001, and shared his own vivid memories of his experience that day.

“What was striking to me was, as we were leaving the building, first responders had already set up on the lawn to start taking care of these people,” said Route. “These were not people in uniform, they were first responders from Arlington and Alexandria, people that are represented in the audience here today.”

Route said that within the chaos that followed, heroes were stepping forward putting to use their shipboard training ... From fighting fires to helping transfer injured to awaiting first responders outside.

“I learned a new respect for my civilian colleagues,” Route said. “Those of us in uniform signed up for whatever comes our way ... The civilians in the Pentagon didn’t sign up for that, but they were on the front line that day, and it brought home that the world had forever changed.”

In concluding his remarks, Comiskey offered praise to NPS and CHDS for the institution’s role in advancing national and homeland security.

“In the end, we learn how to do things right and how to operate better,” said Comiskey. “I thank everyone here, and for NPS, for doing these great things, and I ask that everyone keeps our colleagues who are in harm’s way in our thoughts and prayers.”

Focus On … Service to Our Students

A Monthly Look at Names and Faces on Campus

NPS Student Services Administrator Mario Salim, right, received the Navy Superior Civilian Service Award from NPS President retired Vice Adm. Ronald A. Route during the NPS President’s Council, Sept. 26 in Herrmann Hall. Salim will soon retire after 16 years of civil service, matched by his 20-year active duty career as a Navy Personnelman.

“I worked here for 16 years and I really have mixed emotions, because I love what I’m doing here serving my students and all the staff,” said Salim.

“During Mario’s time at NPS, he has become an institution,” added NPS Dean of Students Cmdr. Paul Rasmussen. “His professionalism, work ethic and mission accomplishment are second to none. NPS has maintained its superior reputation because of super stars like Mario Salim. He will be missed.”

Rasmussen’s sentiment is echoed throughout the Dean of Students office, with staff cautiously wondering how they will continue to provide equal service without, as Executive Assistant Chris Browning says, the department’s “linchpin” on the team.

“I’m so thankful that I have very supportive coworkers ... It makes my job, and their job, easier,” said Salim. “Without them, I would not be able to have all the success I have had in our department. I wish I could stay for another four years to have a 20/20 career.”

But retirement is calling, Salim says, and his plans on spending quality time with his wife, daughter and grandchildren are his highest priority now.
Any Day at NPS ...

Marine Corps Capt. Dan Salazar, Chairman of the President's Student Council.

To those just joining the NPS family, welcome! The PSC is excited to have you as teammates on board. As you settle in and begin the push into your studies, we hope you take the time to capitalize on all the resources available to you here.

For those returning, welcome back! The PSC is actively reading through all the feedback you provided in the student experience survey.

We are taking the input from the 247 students who participated and preparing to bring it before university leaders to make them aware of your issues and concerns. We'll be keeping you posted on the progress of certain key initiatives that come from this effort in the weeks and months to come.

The PSC is also welcoming new members. If you would like to know more about being part of this unique team, please email any current member (info below).

Also, all students are always welcome to our monthly meetings held the first Wednesday of each month at 1200 in the library, room Kn-263A.

The PSC is here to serve you and be your advocates. Thank you for your hard work and good luck with your studies.

Chair: Capt. Dan Salazar
Vice-Chair: Capt. Margarita Balish
SIGS Lead: Lt. Dan Justice
SIGS Rep: Lt. j.g. Tanya Herfi
GSOIS Lead: Maj. Jake Jacobs
GSOIS Rep: Maj. Paul Webber
GSBPP Lead: Capt. Beau Pillot
GSEAS Lead: vacant

Have a story to share? Public Affairs is constantly seeking interesting news and stories for Update NPS. Send your tips to pao@nps.edu
Historical Highlights

During a recent visit to the library’s Special Collections & Archives, a researcher handed this image to the librarian with a very puzzled expression. What is it?

Behold: The six-legged all-terrain “Adaptive Suspension Vehicle”. The ASV was a “land walker” robot that weighed over three tons and carried 16 onboard computers to control its legs.

Designed to carry cargo for industrial and military applications, it could traverse rough, icy and muddy terrain, could hop ditches 9 ft. across and scale walls 7 ft. tall. Collaborators Dr. Robert McGhee and Dr. Kenneth Waldron studied nature to design its motion: like a grasshopper, the ASV could pair its legs to deal with obstacles. (Yes, there’s video on YouTube.)

McGhee later applied his robotics experience with the design of unmanned submarines for NPS, as Professor of Computer Science from 1986 until his retirement in 2005.

Historical Highlights are provided by the Dudley Knox Library.