NPS Assistant Professor Timothy Chung with members of NPS’ Advanced Robotic Systems Engineering Laboratory (ARSENL) successfully flew a “swarm” of 20 autonomous UAVs simultaneously, during the latest Joint Interagency Field Experimentation (JIFX) exercise at Camp Roberts, May 15.

“I’m incredibly pleased to share ARSENL’s accomplishment of successfully flying 20 UAVs simultaneously last Friday during field experiments at Camp Roberts!” said Chung. “This number beats our previous ARSENL record of 12 UAVs, set in April, and we believe it to be a first-of-its-kind demonstration of this magnitude for large-scale, autonomous fixed-wing UAV teams.”

The 20 UAVs were successfully launched and flown autonomously in two “sub-swarms” of 10 UAVs each and guided using ARSENL-developed swarm operator interfaces. The UAVs performed basic leader-follower cooperative behaviors, exchanging information amongst themselves via wireless links.

“Flying 20 aircraft was a mile-marker on the road to our eventual goal of flying 50 aircraft simultaneously.”
— Research Associate Marianna Jones

NPS and the Georgia Tech Research Institute (GTRI) have been engaged in a friendly rivalry of sorts as each tries to launch and simultaneously fly an increasing number of autonomous aircraft. NPS’ record was nearly broken by GTRI last week, but the NPS record held after GTRI was only able to successfully launch 14 of its 30 planned aircraft. But Chung has his sights set even higher, he hopes to launch a further record breaking 50 autonomous UAVs in the near future.

“This work has been made possible through the hard work and initiative of our systems engineering and cross-campus team members including [Research Associates] Michael Day, Marianna Jones and Mike Clement as well as [Assistant Professor] Duane Davis, [Research Associate Professor] Kevin Jones and countless others,” said Chung.

“We have been working on this for two years, so it was very gratifying to successfully fly 20 aircraft,” said Jones. “Flying 20 aircraft was a mile-marker on the road to our eventual goal of flying 50 aircraft simultaneously.”
NPS Welcomes Acquisition Professionals

By Kenneth A. Stewart

NPS welcomed a who’s who list of the nation’s leading acquisition professionals to the Graduate School of Business and Public Policy’s (GSBPP) 12th Annual Acquisition Research Symposium, May 13-14. The annual symposium brings together acquisition leaders and experts from around the world to discuss the latest developments in acquisition research and policy.

The Honorable Frank Kendall, Under Secretary of Defense for Acquisition, Technology and Logistics, was the keynote speaker at the symposium. He discussed the current state of the Department of Defense’s acquisition program.

“The way you make progress in acquisition is not by big, flashy programs, but by gradual improvements on multiple fronts over time,” said Kendall. “I think the trains are moving in the right direction.”

Kendall also said that he would give the current DOD acquisition program a “B+ or an A-.”

“I give us that grade because we win the super bowl every year,” said Kendall. “We have a remarkably capable force … that gets the job done.”

Assistant Secretary of the Navy Sean J. Stackley kicked off the second day of the symposium by speaking about areas that he believes pose a threat to the acquisition system – rising costs, increasingly technologically-savvy adversaries, and the Budget Control Act.

But, Stackley noted that budgetary concerns aside, the Navy cannot simply spend its way out of acquisition problems and that acquisition professionals must “change the cost equation” to be successful. He also noted that improving the acquisition system requires neither new laws nor regulations, but rather investments in people. Like Kendall, he challenged the notion that the DOD’s acquisition system fails to be effective.

“I am compelled to question the notion that acquisition is broken if it is true that ours is the strongest Navy in the world,” said Stackley. “This stuff doesn’t happen by accident. It takes talent.”

Stackley’s point is a critical one to the acquisition community, who see their function as a critical partner in national security … after all, without acquisition, a force would be wholly unequipped on the battlefield. Former Under Secretary of Defense for Acquisition, Technology and Logistics, and one of Kendall’s predecessors, Dr. Jacques Gansler, who currently serves as the director of the University of Maryland’s Center for Public Policy and Private Enterprise, described the acquisition process in laymen’s terms.

“[It’s] what you buy, how you buy it, who you buy from, who does the buying and how you support what you bought,” explained Gansler.

NPS Professor of Practice, retired Rear Adm. James B. Greene, is the chair of NPS’ Acquisition Research Program. He has been intimately involved in the acquisition process for decades and believes that NPS students are the core of the acquisition workforce of the future.

“Developing critical thinking skills in our future acquisition workforce, that’s what we do here at NPS,” said Greene. “The Acquisition Research Program [at NPS] has been ongoing for 15 years now. It provides a research outlet for looking at the defense department’s business practices, policies and procedures.

“The amount of research we have done has really provided a knowledge base for our policy makers. It is something policy makers can go to … so that they don’t repeat the mistakes of the past,” he continued.

Greene and fellow GSBPP Professor Keith Snider have been the driving force behind NPS’ annual Acquisition Research Symposium. Many of the papers presented at the symposium are the result of student/faculty research, which the NPS Acquisition Research Program has funded over the previous year.

“It’s a great opportunity for our students and faculty to meet the most senior ranking people in the DOD who oversee the procurement of our weapons systems,” said Greene. “The interaction between the members of the department and our students and faculty is tremendous.

“Other symposiums or conferences that you go to have a very large ‘trade show’ component to them, that is not the case with our symposium,” he continued. “This is a meeting of practitioners and scholars in defense acquisition and it provides them with an opportunity to talk about the direction of the department.”
Promotion and Tenure Ceremony Casts Light on Education, Research

By Kenneth A. Stewart

NPS President retired Vice Adm. Ronald A. Route and Provost Dr. Douglas Hensler, honored a diverse crowd of academics during NPS’ annual promotion and tenure ceremony at the university’s Mechanical and Aeronautical Engineering Auditorium, May 8.

“Today, we celebrate NPS mission accomplishment, educating our students and conducting relevant research,” said Route. “We talk about things that are ‘mission critical’ here at NPS. Our world class faculty are mission critical … mission essential.”

“There are events that demonstrate that the lifeblood of a university continues to flow. This is one of those events,” added Hensler.

Associate Professor Jonathan Lipow was one of the honorees recognized for his award of tenure at the ceremony.

“Tenure is an interesting question for us as federal employees. No federal employees is really promised to never be fired, but it is really valuable because it puts us on par with other academics,” he said.

Lipow’s work at NPS is rather unique. In fact, there are only a small handful of people exploring similar research interests.

“I am one of a few people that is doing theoretical work analyzing the attributes of the draft versus an [all] volunteer force,” said Lipow, who is also looking at the pros and cons of labor unions within military forces, a practice not uncommon outside the U.S.

Dr. Leo Blanken was also recognized for his award of tenure at the ceremony. Additionally, he was promoted to associate professor. He is a political scientist with NPS’ Department of Defense Analysis and is currently working with the National Counter Terrorism Center to develop a means of conducting assessments of irregular warfare.

“During WWII you could measure what you blew up. But, it is more difficult to conduct wartime assessments when addressing irregular warfare, like the fight with ISIS,” said Blanken.

His latest article, “Assessing War: The Challenge of Measuring Success and Failure,” will appear later this year in an edited book on the subject.

Dr. Arturo Sotomayo was also awarded tenure and promoted to Associate Professor. He was promoted and awarded tenure due to his scholarship and a major contribution in the subfield of international security.


Sotomayor’s more recent work and teaching interests have centered upon the professionalization of military forces, and their subordination to civilian control.

“The U.S. system is unique. There is support for the military, but strong civilian control,” explained Sotomayor. “[In my course] we talk about how we establish civilian control and welcome people through exchange programs. We show them how civilian control is tantamount to their success.”

During the ceremony, Route emphasized the important work that the awardees do in furthering NPS’ mission and their investment in the university’s unique student body.

“Here at NPS, not just any faculty will do. We need this faculty, that understands our students and their calling, that thinks ahead in their academic fields to tomorrow’s technology and defense needs, a faculty that accomplishes much and is recognized for their achievements,” said Route.
BizLibrary Offers Staff Development Opportunities

The BizLibrary is an online training portal that offers access to some 2,500 streaming videos and 3,300 online courses available to NPS staff members free of charge by the university’s Staff Development Council (SDC).

“Staff can take up to 20 courses and watch an unlimited amount of streaming videos per fiscal year through the BizLibrary,” said Research Associate Laura Cole with the SDC. “[The SDC] is trying to encourage people to take some time out of their week to start a class.”

Cole also weighed in on the value of staff development training, and in particular, the inclusion of training objectives in individual development plans.

“Supervisors should be encouraging employee development and should be working with individual employees to develop individual development plans, which include a discussion about training,” said Cole. “[Performance evaluations] are not just about what you want to do with your careers, they are about what sort of training you need,” she continued.

Videos available at the portal range from short minute-long segments to 15-minute features on a wide variety of topics designed to encourage productivity and to create a more effective workforce.

“Most are quick hits of a topic of interest that can help you to resolve particular issues,” said Cole.

Online courses are longer and require a greater time commitment, but they also offer more content allowing online learners an opportunity to explore topics of interest with greater depth.

The SDC has taken steps in recent months to make the BizLibrary more useful to staff members.

Cole notes that courses offered through the BizLibrary can be used to meet continuing education unit (CEU) requirements. She also noted that the BizLibrary has never been more accessible.

“BizLibrary is available off campus and does not require VPN. There is also an application that you can use on your smart devices that will allow you to take the training wherever you go,” said Cole.

“You could even take a course while you were waiting for a flight at the airport,” she continued.

There are currently 500 seat allocations at the BizLibrary and some 100 seats available to online learners. Originally, the BizLibrary was intended to serve GS personnel only, but it has been opened up to non-GS employees as well in an attempt to not only fill open seats, but to demonstrate the utility of the BizLibrary’s many programs for professional development.

MOVES Institute Hosts Academic Working Group

NPS’ Modeling, Virtual Environments and Simulation (MOVES) Institute showcased its most recent developments during the institute’s Academic Working Group, May 22.

U.S. Marine Corps Lt. Col. Walt Yates currently serves as a Program Manager for Training Systems. Yates is intimately familiar with the program, he was one of the first Marine Corps officers to complete it in 2004. He attended the MOVES working group and expressed his expectations for graduates.

“Our expectations of MOVES graduates is that they are going to be special staff officers that advise commanders on how they implement and employ modeling and simulation to make decisions,” said Yates.

The two-day working group provides an opportunity for MOVES personnel to meet with stakeholders to discuss NPS’ modeling and simulation academic program and supporting research.

“Modeling and simulation is growing everywhere, with the focus at NPS on military training, analysis and planning,” said Yates. “NPS is a unique opportunity for military officers to go into research-based study, unique to the needs of the military. This is the type of thing that is only taught here because of its application to the military.”

The overall goal of the effort is to review current programs, identify where modeling and simulation is headed in the future, and strategize a path forward for MOVES to meet those challenges.
Navy’s Cyber Chief Applauds NPS Programs

By Javier Chagoya

Former NPS Interim President and U.S. Fleet Cyber Command and U.S. 10th Fleet Commander Vice Adm. Jan E. Tighe traveled to NPS to conduct a biennial review of the university’s cyber curriculum, May 12.

Now in its third year, the NPS Master of Applied Cyber Operations (MACO) program is geared to provide Navy enlisted Network Cryptologic Technicians and Information Systems Technicians with advanced cyber systems and network defense education. Tighe has actively nurtured the program since its inception.

“This cadre of Information Dominance professionals comes to NPS with a practical knowledge of network security; however, now they have the opportunity to learn advanced methods for improving secure networks,” said Tighe. “They are also able to share the learning environment with junior officers from across the services and our allies. I see these individuals becoming leaders of operational Sailors.”

Tighe listened directly to MACO program students during her visit and was pleased by the challenging nature of their course work.

Students Seek MARINE Solutions

By MC1 Lewis Hunsaker

Experts representing six local research and academic institutions recently gathered to evaluate student solutions to “wicked” marine problems at the Moss Landing Marine Lab.

The event marked the first time that NPS students have collaborated with the institutions in conjunction with the Monterey Area Research Institutions’ Network for Education (MARINE) program.

“IT’s a unique education experience when we get our Navy students out of the NPS bubble and working alongside other graduate students,” said NPS Program Officer for Meteorology, Oceanography and Undersea Warfare Cmrd. Bill Sommer.

MARINE, a collaboration between the Center for Ocean Solutions and seven Monterey Bay academic institutions, aims to prepare future ocean leaders and to enhance marine education.

In addition to NPS, partner institutions include California State University Monterey Bay, Middlebury Institute of International Studies at Monterey, Moss Landing Marine Laboratories, Stanford Hopkins Marine Station, Stanford University, and the University of California Santa Cruz.


Congratulations to ET1 Brandon Meyerdirk, CTT1 Corey Thomas, CS2 Garret Davis and MC2 Michael Ehrlich on their selection for advancement during the Spring Advancement Cycle. This significant career milestone represents the Navy’s faith in their outstanding leadership and their ability to continue leading at the next level.
Students Build Mission Assurance Tool for National Lab

By MC2 Shawn J. Stewart

Officials at Los Alamos National Laboratory (LANL) needed a tool to help guide their researchers and scientists through the systems engineering lifecycle process, providing a mechanism for documenting requirements, design, and test results.

“I wanted to give engineers and applied scientists with little or no expertise in system engineering a chance to tailor and apply Los Alamos National Laboratory’s mission assurance processes,” said LANL Executive Advisor, Dr. Heidi Hahn.

She turned to one of the top systems engineering departments in the nation at NPS, where a team of students took the challenge for their capstone project, applying a Design Thinking approach to solving the problem.

The phases of Design Thinking play out like a Navy Planned Maintenance System where each and every phase has a detailed and clearly defined order of operations. The phases required the students to gather and organize, define issues, ideate, build a prototype and test with users.

“First, we reviewed the problem statement, and then compiled all of the information provided into like-minded groups,” noted NPS student, U.S. Navy Lt. Robert Smith. “We then analyzed the needs, wants, desires, and goals of each group, identifying any similar threads between groups. From there, we discussed how our product could meet the needs of each group.”

“We began brainstorming potential solutions, including different mediums that the formula could take including word documents, paper documents, etc.,” added Navy Lt. Patrick Stone. “We also reviewed alternatives already in place at the laboratory to determine the benefits and drawbacks of each to determine if in-place alternatives could be tailored to fit the design challenge.”

During phase four, students developed a working prototype based on information from the previous three phases.

In February, the students were invited to LANL during their Engineer’s Week celebration, and used the visit to present a poster documenting their project and were able to meet users face to face.

“We had a great time at Los Alamos. It was a privilege to interact with so many passionate engineers and scientists,” said Lt. Jordan White. “The presentation at Los Alamos was accompanied by a brief from [Systems Engineering] Professor Cliff Whitcomb on the Design Thinking process that was very well received. The lab staff were also engaging and interactive during the presentation and the brief.”

Hahn expressed a desire to improve future joint projects.

“[In the future] we would likely have the students out twice – at the beginning of the project and again for Engineer’s Week,” she said.

Focus On … Making Things Happen

A Monthly Look at Names and Faces on Campus

Physical Science Technician Keith Wyckoff is the guy you go to when you need to build something that’s so crazy, it just might work.

Wyckoff works long-hours in often challenging environments to assist students and faculty by fabricating, building and implementing specialty equipment for oceanographic field research. Many of the items in his lab were developed here at NPS.

“Students are coming to me with their projects, post-docs or graduate-level field research,” said Wyckoff. “The faculty come to me with projects on a much grander scale.”

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Lt. Aaron Steward is the Chairman of the President’s Student Council.

“The best way to find yourself is to lose yourself in the service of others.” — Mahatma Gandhi.

It has been an honor to serve as the Chairman of the President’s Student Council. The learning experience has been both a reward and a challenge.

The reward came from serving NPS, the community, and the student body. Knowing your actions can have an impact on improving the lives of others, no matter how small it may be, enriches and brings new meaning to life. The experiences gained in the interaction with the professors and students at NPS expand your horizons to new ways of thinking and new possibilities. The community services work with the high schools, community support organizations, and the homeless then brings you back again; grounding you to the realities that surround us and giving you a purpose to your studies here at NPS.

The challenge came from trying to inspire others to sacrifice the few hours of free time they have available to the service of others. I am grateful to the faculty and students who have given their time to support the PSC to make it what it is today. Their efforts have made the PSC an organization that NPS can be proud of. June 30th marks my last day as chairman of the council. Please welcome Lt. Colleen McDonald and Lt. Cmdr. Jesse Walsh as the new Chairman and Vice Chair of the President’s Student Council. Under their leadership, with the help of the NPS student body, the next student council will accomplish great things for NPS and the community.
The mission of the Naval Postgraduate School is to provide relevant and unique advanced education and research programs to increase the combat effectiveness of commissioned officers of the Naval Service to enhance the security of the United States. In support of the foregoing, and to sustain academic excellence, foster and encourage a program of relevant and meritorious research which both supports the needs of Navy and Department of Defense while building the intellectual capital of Naval Postgraduate School faculty.

On Campus this Month

**June 6**
Battle of Midway Memorial Dinner
6:00 p.m. - 9:00 p.m. at Barbara McNitt Ballroom

**June 9**
Quarterly Awards Ceremony
3:00 p.m. at Barbara McNitt Ballroom

**June 12**
Defense Energy Seminar
1:00 p.m. at ME Auditorium

**June 19**
Graduation Ceremony
10:00 a.m. to 12:00 p.m. at King Auditorium

**June 21**
Happy Father’s Day

**June 30**
New Student Orientation Brief
7:30 a.m. to 3:00 p.m. at King Auditorium

NPS on YouTube

Historical Highlights

In June 1948 both NPS and the Hotel Del Monte passed a milestone leading to NPS as we all know it today. In early May of the same year, President Harry S. Truman signed the appropriations bill for the government’s purchase of the hotel, but the president’s pen strokes were not the final act in the four-year long negotiation.

Del Monte Properties Company President Sam F.B. Morse proposed last-minute substitutions in the land parcels and even offered to include the Del Monte Golf Course in the deal. Attorney General Thomas C. Clark sent guidance to Secretary of the Navy John L. Sullivan on June 3rd and Captain Frank Watkins conducted a personal site visit for the Navy secretary. The Navy subsequently turned down Morse’s closing offers, but before the month concluded, Watkins delivered a check to Del Monte Properties Co. for the final purchase price of $2,149,800.00 and NPS’ legacy on the historic Del Monte property began.

Historical Highlights are provided by the Dudley Knox Library.

www.youtube.com/NPSvideo