
Keep up with what's new - Systems Engineering at the Naval Postgraduate School



SE NEWSLETTER HIGHLIGHTS

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- Winter (AY18) Graduation Highlights and Awards
- Fall (AY18) Graduation Highlights and Awards
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- Faculty Awards



Visit our website

Letter from the Chairman

The Systems Engineering Department welcomed our first cohort of Army students for the new Master of Science in Systems Engineering Management (MSSEM) program this June. These Army Acquisition Officers will acquire both technical and project management knowledge to bring to the Army acquisition process. We will be starting the Distance Learning (DL) version for Army civilians in the fall quarter. We are glad to be able to serve the Army with this new program designed specifically for the needs of their officers and civilians.



Dr. Ronald E. Giachetti
Chair, Systems Engineering
regiache@nps.edu

In this issue of our newsletter you will read a sampling of the important work our faculty and students are doing to improve the practice of systems engineering in the Navy and the Department of Defense. At NPS, research and education are tightly entwined through the high participation rate of our students in relevant research projects and also because the research helps inform our curricula. The newsletter describes the work done by our resident cohort on developing autonomous systems and testing them at the Impossible City MOUT located at Fort Ord in Monterey.

The quality of the work our students conduct is high, and many of them have presented their work at professional conferences. This newsletter contains a synopsis of some of the student thesis and capstone work appearing at professional conferences. An important aspect of research is disseminating the results to a wide audience that can put this knowledge to use, and it is also important for the students to gain experience in presenting technical content to a broader audience.

The Systems Engineering department participates in exchange programs and this newsletter describes the work being done by a Norwegian student and a German civilian working for the Bundeswehr. These programs support the larger goals of the Department of Defense (DoD) and help the Systems Engineering department in our mission to educate officers, Navy civilians, and other DoD civilians. In summary, the Systems Engineering department continues to be successful in meeting the education needs of the Navy and the DoD.

As always, we welcome any news on our alumni and their work for the defense and security of our nation.

Department News

NPS Systems Engineering Launches iTech Outreach Seminar Series



U.S. Navy photo by Javier Chagoya

The Naval Postgraduate School (NPS Department of Systems Engineering (SE) is launching an inspired outreach effort to improve the discipline's awareness within the broader Navy, DOD engineering and technical workforce.

NPS Associate Chair for Distributed Programs and Outreach Wally Owen serves as the director for the series, and works closely with the department chair and faculty to identify topics, select speakers and determine site locations.

"Our goal is to deliver lectures on SE-related, relevant topics at key Navy sponsor and stakeholder locations, starting with our [system commands], and then extending to the other services and DOD commands," explained Owen. "It offers the engineering and technical workforce with a relevant learning opportunity led by SE faculty, sharing cutting-edge engineering innovations and technology advances in research, education and practice."

Lectures are delivered onsite, at no cost to the host location. And Owen says SE distance learning students located at lecture sites will be integrated into the program, providing insights into their own experiences with the discipline.

“Seminar presentations focus on technical topics but also include an overview of our SE department and programs,” Owen added.

The inaugural seminar was hosted at the Washington Navy Yard in Washington, D.C., on April 4, 2018, with Professor of Practice Warren Vaneman discussing, “Model-Based Systems Engineering De-Mystified.”

“Model-Based Systems Engineering (MBSE) is an ambiguous concept that means many things to many different people,” notes the presentation’s description. “The purpose of this presentation is to ‘de-mystify’ MBSE, with the intent of moving the sub-discipline forward.”

Article by MC2 Michael Ehrlich

[Link to full article](#)

MOU Provides New Opportunities for Army Acquisitions



Mr. Craig Spisak and Senior Lecturer, John Dillard

A new agreement has been reached between the Naval Postgraduate School (NPS) and the U.S. Army which will pave the way for new generations of more technically-proficient acquisition professionals.

A memorandum signed in May between NPS President Ronald A. Route and Lt. Gen. Paul Ostrowski, director of the Army Acquisition Corps, establishes two new NPS master’s programs in systems management for Army civilians and officers to provide students greater exposure and training across multiple career fields and domains.

“There are very few accredited institutions that can provide Department of Defense (DOD) experience via the practitioner faculty that NPS has; they’ve worked inside the DOD system and understand the pitfalls,” said Craig Spisak, Army Director of Acquisition Career Management. “It’s their faculty’s operational relevance that sets NPS apart and makes it unique.”

The new interdisciplinary Master of Science degrees will expand the technical knowledge and skills beyond the currently available MBA program at NPS.

Beginning this summer, the first – designated Curriculum 522 – will train Army officers with non-technical backgrounds to manage and lead acquisition programs for complex combat systems and to work with DOD suppliers through contracts.

The second – Curriculum 722 – will teach Army civilians the finer points of the systems engineering process, from establishing system requirements through testing and evaluation, and how to manage, schedule and budget programs.

These programs will provide a thorough understanding of the technical acumen for both parts of the acquisition business, Spisak said. This technical training is exceedingly difficult to obtain, unlike management and leadership training.

“The true power that NPS can provide is that it brings operational relevance to this education,” he added. “You can send anybody anywhere for a systems engineering degree or a MBA – there are great institutions all over the world – but there are very few places that can provide real-world operational

experience via practitioners that have walked in the shoes you will be walking in as an acquisition professional.”

The six-quarter curriculum 522 course of study will lead to a Master of Science in Systems Engineering Management, as well as Level III certification in program management, engineering and contracting, plus fully integrated JPME.

Students in the eight-quarter curriculum 722 program will earn a Master of Science in Systems and Program Management, including certification in Level III program management, engineering as well as test and evaluation; Level II production, quality and manufacturing; and Level I life cycle logistics.

Article by Matt Schehl

[Link to full article](#)

NPS Students Put Their Research to the Test in Impossible City



NPS Systems Engineering students are taking advantage of the nearby Military Operations in Urban Terrain (MOUT) facility on the former Ft. Ord, also known as ‘Impossible City,’ to test and evaluate their research in ad hoc networking and autonomous control of unmanned systems.

“In this Concept of Operations, the team used an unmanned ground vehicle (UGV) and an unmanned aerial vehicle (UAV) to conduct a search and rescue mission to find and steer to a person in distress (PID) autonomously,” said Professor Oleg Yakimenko.

The mission included a mannequin, substituting as an injured person, which was placed in an unspecified location. The team then utilized UAVs to scan the area from the air, helping ground vehicles locate and track the simulated wounded soldier in tandem, all connected by a network the team deployed.



A portion of the team focused on a portable, deployable wireless network all from commercial off the shelf routers, conducting extensive testing in the lab on campus before field testing it at the MOUT. Other students focused on coding, writing the ‘software’ that would tell the autonomous systems what to do to locate the mannequin.

“Army Capt. Todd Howe and Lt. Travis Turner developed over 1,000 lines of operating code in a self-taught, open-source programming language,” said Lt. Rob Hall, one of eight members on the team. “The team utilized their strong systems engineering background to offset their relative inexperience in the fields of networking and robotics.

“The team spent over a month conducting subsystem testing, including power, signal strength, signal propagation, and signal latency,” he continued. “This project would not have come to fruition in such a short period of time without the determined effort of every member on the team.”



Professor and Chair, Ron Giachetti; CPT. Todd Howe, USA; LT. Wyatt Middleton, USN

The experimentation wasn't flawless, but it teaches the students the fundamental concepts required for a set of technologies that will be on the not-so-distant battlefield.

"The team successfully demonstrated the search and rescue mission ... the UGV autonomously navigated via GPS waypoints to the [mannequin] in two scenarios," said Yakimenko. "The team had to learn how to create a three-dimensional survey of the area, including roads and other access points, prior to deploying the search and rescue mission.

"This exercise marked the culminating event in a series of three consecutive project courses that the SE cohort has worked on for three academic quarters," added Yakimenko. "This brought together several disciplines that had to be learned quickly."



Pictured from left to right: LT. Joshua Ramseur, USN; LT. Wyatt Middleton, USN; Professor Oleg Yakimenko; CPT. Todd Howe, USA; Mr. Wei Shun Teo; LT. Ross Eldred, Military Faculty; LT. Mario Granata, USN; Mr. Stefan Wangert; Mr. Sondre Engebråten; Mr. Rushen Dal; Mr. Albert Jordan; Monterey County Sheriff's Deputy Lanny Tipton

The Systems Engineering cohort members are: team lead U.S. Army Capt. Todd Howe; Wei Shun Teo; U.S. Navy Lts. Mario Granata, Hall, Dan Michnewich, Wyatt Middleton, Joshua Ramseur and Travis Turner; and, Army Capt. Ron Moreno. Lab support was provided by NPS Engineering Technician Rushen Dal and Academic Lab Engineer Albert Jordan. Other participants in this multidisciplinary effort included Exchange Engineer Stefan Wangert of the Information Sciences department, Research Scientist Sondre Engebraten from Defense Analysis, and Research Associate Jeremy Metcalf of the Physics Department. The final demonstration was observed by the Base Police and Monterey County Sheriff's Office representatives.

Article by Javier Chagoya and Khaboshi Imbukwa
Photos by Javier Chagoya
NPS PAO Office
[Link to article](#)

Systems Engineering Analysis Capstone Summary (Cohort 27)

The Navy's ability to win a war-at-sea in a contested environment is predicated on the ability for its forces to operate in a distributed, yet integrated manner. This is especially true in today's current environment of extended range warfare conducted through shared tactical networks. With advances in technologies, drastic improvements in the capabilities of friendly and enemy weapon systems, and an uncertain geopolitical environment, the U.S. maritime forces must develop and implement doctrine and policy that supports the ability to conduct operations in environments challenged by a capable adversary. The concept of Distributed Maritime Operations intends to enable a force that is capable of winning a fleet-on-fleet engagement through the emboldening of units to conduct offensive strikes, integration of manned and unmanned systems, and execution of deceptive tactics in all operational warfare areas.

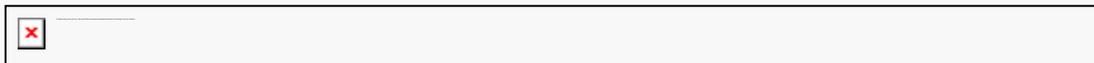


Figure 1. Functionality of DMO Event-Based Model

The Systems Engineering Analysis Cohort 27 Capstone team project contributes to the concept of Distributed Maritime Operations in the 2030-2035 timeframe through the development of an operational simulation that examines the ability for various compositions of multi-domain fleet assets to perform tactical operations in a naval combat environment. The Capstone project studies the impact of the

friendly force employment of deception and tactics against an enemy force, and the resulting impact on the adversary's ability to progress through the various stages of a kill chain sequence of events.

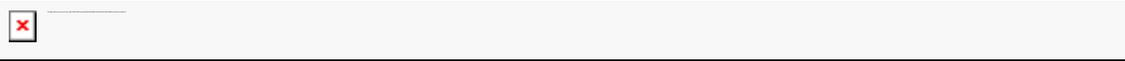


Figure 2. Factors with Greatest Impact on Success of Friendly Forces in Fleet Engagement

Through the development and analysis of a discrete event simulation, the research investigates the ability for naval forces in the air, surface, and electromagnetic warfare domains to contribute to the innovative concept of DMO through the performance of tactical offensive operations and employment of deceptive tactics. The analysis resulted in two major findings. In terms of force composition, an increased number of missile carrying assets, beyond the number currently utilized within a Carrier Strike Group or Surface Action Group, had the largest impact on operational effectiveness and survivability. Tactically, the utilization of barrage and spot jamming, coupled with the utilization of unmanned deceptive swarms, provided a significant improvement in the survivability of friendly forces as well as the attrition of enemy forces.

Summary by LT. Christopher Popa and LT. Sydney Stone

Visiting SE research scientist wins Best Student Award

SE's visiting research scientist, Sondre Engebråten, received the Best Student Award from the SPECIES, the Society for the Promotion of Evolutionary Computation in Europe and its Surroundings.



Mr. Sondre Engebråten

Sondre Engebråten, a visiting research scientist from the Norwegian Defense Agency, received the Best Student Award from SPECIES for his work titled, "Evolving a Repertoire of Controllers for a Multi-Function Swarm," which was presented at the EvoStar 2018 conference in Parma, Italy, the leading European event on bio-inspired computation.

SPECIES aims to promote evolutionary algorithmic thinking and inspiration of parallel algorithms derived from natural processes.

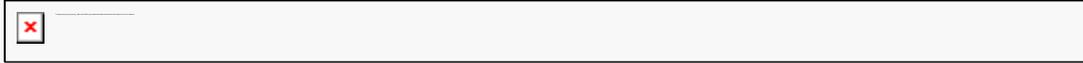


Sondre works with Prof. Oleg Yakimenko at the SE department where they have built and flown a fleet of network-capable multi-rotor UAS. This has led them to explore a variety of novel high-level control algorithms, enabling a swarm of autonomous vehicles to execute a variety of missions in support of the Department of Defense and Homeland Security.

Article by Prof. Oleg Yakimenko
Photos by Javier Chagoya

ESEP Candidate, Mr. Stefan Wangert

Stefan Wangert, a civilian working for the German Army in the area of quality management, spent a nine month period working with faculty, staff, and students in the Systems Engineering Department at the Naval Postgraduate School (NPS). Stefan expressed an interest in autonomous systems, which is an active area of education and research in the Systems Engineering department at NPS. He was asked to support a team of students, mostly active-duty Naval officers on a project sponsored by the Office of Naval Research (ONR).



Mr. Stefan Wangert

The project was to investigate algorithms for coordination between air and ground autonomous systems. The project team was posed with a notional search and rescue mission in an area of urban terrain. The concept of operations was for the air vehicle to map the area, locate the person in distress, and send that information to the autonomous ground vehicle, which would go to the person in distress. The project team developed two autonomous systems: an air vehicle and a ground vehicle, and tested the systems in a MOUT facility. Stefan's role in the project was to develop a discrete-event simulation model of the operational scenario. The simulation model was used to verify the operational concept, identify system requirements, and also to serve a research goal of understanding how well our models represent actual operations. Additionally, Stefan worked to develop a methodology to identify the interfaces and communications necessary to support coordination between multiple autonomous systems.

Stefan was able to learn the software quickly and build useful models of the mission. He worked with and supported the Navy team with his advice and knowledge. He participated in the field experiments in which we conducted the mission at a MOUT facility at Fort Ord. We expect to have a technical paper on this work published, and Stefan will be one of the co-authors to recognize his contribution to the project.

Capt. Todd Howe earns PE



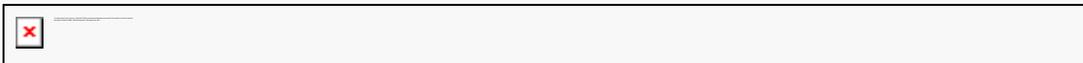
Capt. Todd Howe, USA

U.S. Army Capt. Todd Howe earned the licensed Professional Engineer (PE) designation.

To become licensed, engineers must complete a four-year college degree, work under a Professional Engineer for at least four years, pass two intensive competency exams and earn a license from their state's licensure board.

Todd also completed two publications and a thesis this quarter and graduated with distinction with a Master of Science in Systems Engineering.

Bowman Scholar's USNA CubeSat Research Gets Help from NPS



Space robots will be launched into orbit this summer by a team of junior Navy officers in a test which has the opportunity to bring significant change to how the Department of Defense (DOD) operates assets in the extraterrestrial domain.

U.S. Navy Ensign Edward 'Ned' Hanlon, a Bowman Scholar in the Naval Postgraduate School's (NPS) Systems Engineering department, along with a team of former Midshipmen, developed a way to efficiently deploy robotic CubeSats into space to tend to ailing spacecraft. His Autonomous Mobile On-orbit Diagnostic System (AMODS) piggybacks grapefruit-sized robots in rocket payloads which can then investigate malfunctions, conduct repairs or perform maintenance on satellites.

By
Matthew Schehl
NPS PAO Office
May 9, 2018

[Click here for full article](#)

SE students and faculty collect data during Cobra Gold 2018 Exercise



Without question, current and future conflicts will underscore an international security environment that is multidimensional and filled with uncertainty. For over 40 years, the U.S. and its allies have had a comparative advantage in technology, but this advantage is eroding rapidly.

Decision-making is much more complex and requires new approaches to address the dynamics of the threats a post-Cold War operational environment. As such, how can warfighters gain early insight into and evaluate the potential impacts of introducing new capabilities into a current system of systems?

This question is driving a research project being conducted by the Systems Engineering (SE) Department at the Naval Postgraduate School in Monterey, California for the Navy's N9 Warfare Systems Directorate. NPS is developing a proof-of-concept experimentation environment to provide N9 a capability to investigate future fleet capabilities by using computer experimentation and simulation to conduct "what if" analysis.

To ensure the experimentation environment accurately models the operational environment, a five-person, multidisciplinary, research team from NPS recently deployed to Thailand to collect data during a major theater-level exercise called Cobra Gold 2018 (CG18). The team consisting of Dr. Andy Hernandez (Principal Investigator), Bill Hatch (GSBPP), Steve Upton (OR Department), Dr. Tony Pullman, and SE Department students LT John Langreck USN and LT Herman Wong USN deployed to Thailand from February 13-23 2018.



Prof. Bill Hatch and LT John Langreck, USN

Joint and combined military operations require complicated interactions among multinational forces in the space, air, surface, and subsurface operational domains to achieve maximum effectiveness. Allied nations periodically conduct multinational military exercises to practice and improve the capabilities of participant nations' command and control systems and staff to interact and coordinate military actions in pursuit of common operational goals. Cobra Gold exercises are one of the largest recurring multinational military exercises in the Pacific region each year.

The stated goal of this year's CG18 was "... to advance regional security by exercising robust multinational force from nations sharing common goals and security commitments in the Asia-Pacific region." (Defense Visual Information Distribution Service <https://www.dvidshub.net/feature/CobraGold>) This year's Cobra Gold exercise included a command post exercise (CPX), a field training exercise (FTX), and a humanitarian Assistance Disaster Relief exercise (HADR-X). Live and virtual combat units, interagencies, and non-governmental organizations participated.



The morning battle update brief during CG18 CPX

The CPX is a staff-in-the-loop computer assisted exercise (CAE) in which a simulation (in this case, the Joint Theater Level Simulation or JTLS) computes operational consequences of decisions the training audience makes in response to a series of events in a scenario. If, for example, a staff tasks an airborne surveillance plane to fly too close to a hostile air defense system, the simulation could declare the asset as shot down, making the asset unavailable for tasking in subsequent rounds. On the other hand, if the airborne asset is tasked appropriately based on the scenario, the staff might be rewarded with an intelligence report of enemy movement that otherwise might have been undetected.

The project seeks to develop an experimentation environment in which the N9 can study future situations with envisioned systems that possess advanced or new capabilities. To create this product, the team must automate portions of the CAE, thereby making the CPX a repeatable event that would allow experimentation without having to have humans involved. This would facilitate analyzing the potential effects of, for example, introducing unmanned aerial systems to replace larger manned aircraft, or potentially teaming manned and unmanned systems to produce a greater capability.

A necessary part of automating the CAE was to actually observe and collect data from the CG18 CPX that could later be used in the development of the experimentation environment. To collect the data, the NPS team deployed to two locations in Thailand – Sattahip, where the exercise technical control, response cells, and OPFOR players were located, and Utapao, where the staffs being trained were located.



LT Herman Wong, USN

"The ability of NPS to assemble an interdisciplinary team of faculty with decades of operational military experience from several departments is one of the distinctive strengths of research at NPS. The fact that we were able to integrate systems engineering students in the data collection effort not only benefited the project, but also aided the students in collecting data for their theses while enriching their educational experience at NPS," stated Dr. Hernandez.

LT Langreck said of his CG18 experience, "Being a part of the data collection planning and execution really brought together some of the classroom material we had on the design of experiments. Working with the exercise staff and the JTLS contractor has given me an appreciation of how military, civilians, and contractors work together to further DOD goals."

The project to develop the experimentation environment is planned to continue through 2019 with periodic proof-of-concept and capability demonstrations to the Navy's N9 Warfare Systems Directorate and the Pacific Command Warfighting Center.

Article by Dr. Andy Hernandez

Dr. Oleg Yakimenko receives patent for invention



Professor Oleg Yakimenko

Dr. Oleg Yakimenko, Dr. Mathias Kolsch, and Dr. Ryan Decker received a patent, March 6, for their invention "Method and Apparatus for Computer Vision Analysis of Spin Rate of Marked Projectiles."

The invention utilizes video and image processing to determine the spin rate of projectiles immediately following muzzle launch.

Dr. Yakimenko is a Professor in the NPS Department of Systems Engineering. Dr. Kolsch is an Assistant Professor in the NPS Department of Computer Science. Dr. Decker is a former Ph.D. Student.

3-Day System of Systems Engineering and Integration Course led by Warren Vaneman



Pictured above is the SPAWAR cohort who attended the SOSE & I course taught by Professor of Practice, Warren Vaneman

Warren Vaneman conducted a 3-Day System of System Engineering and Integration (SOSE&I) at SPAWAR in San Diego with good reviews. The new SSC PAC Chief Engineer was in the course, and was very happy. SPAWAR intends to fund additional short courses in the future. Professor Vaneman discussed the organizational and technical challenges of moving to MBSE environment to manage SoS.

SE student presents thesis at the Conference on Systems Engineering Research (CSER) 2018



LT. Wyatt Middleton, USN

LT. Wyatt Middleton presented his thesis work at the Conference on Systems Engineering Research (CSER) held at the University of Virginia in May 2018.

His presentation and accompanying paper was titled: "Architecture Models for Coordination of Unmanned Air and Ground Vehicles Conducting Humanitarian Assistance and Disaster Relief."

This paper presents a model-based systems engineering methodology for employing architecture in system analysis (MBSE MEASA) for the cooperation of cross-domain unmanned

vehicles conducting humanitarian assistance and disaster relief (HA/DR). The comprehensive framework developed in this paper uses Systems Modeling Language (SysML), which supports the assessment of system requirements for systems engineering.

The research develops architecture to analyze collaborative cross-domain unmanned systems performance. The architecture models focus on the interaction between UAVs and UGVs and use the relationship of system architecture products and model-based systems engineering analysis to quantify system performance. This methodology will also identify those design features which are most impactful to mission effectiveness.

The MBSE MEASA incorporates the iterative process of systems engineering in determining the optimal solution for the architecture products. This research will demonstrate the usefulness of model-based systems engineering analysis in the design of UAV-UGV cooperation while conducting a mission scenario.

The result of this research will be a validated and executable system architecture for cross-domain unmanned vehicle cooperation. The architecture will serve as the conceptual template to guide future research and development of unmanned vehicles.

SE cohorts present their work on unmanned systems at the 2018 Joint Undersea Warfare Technology Spring Conference



Senior Lecturer Mike Green

LCDR Paul Evans of Systems Engineering Cohort 311 (154O, 164O and 164S) presented preliminary results from his group's capstone project at the *2018 Joint Undersea Warfare Technology Spring Conference*. The presentation titled "System Architecture for an Autonomous TASW Mission Package for Unmanned Surface Vessels" reported on a nine month long study that has the objective to develop a system architecture for enabling an autonomous and collaborative execution of Theater ASW that can search, detect, classify, and track a submarine using passive sensors across multiple platforms in an open ocean environment. Given mission tasking and constraints, the architecture relies on existing environmental models, historical operating patterns, and past collection data to autonomously conduct TASW.

Using passive sensors prevents adversarial knowledge of overt prosecution and search area avoidance in open ocean environments. The project is sponsored by DARPA via Professor Shelly Gallup of NPS. The advisors are Mark Rhoades and Mike Green of Systems Engineering. In addition to Lcdr Evans team members are: John Engberg, Oscar Pineiro, Gabrielle Salo, and Nicholas Samos.

Senior Lecturer Mike Green presented preliminary results of Systems Engineering Cohort 311-164S capstone project "Data Fusion Architectures for Undersea Warfare with Autonomous Underwater Vehicles" at the *2018 National Fire Control Symposium*. The goal of this project is to provide an

architecture for a data fusion system that facilitates the near real-time exchange of information from disparate sources into a cohesive, distributed network. This architecture will in turn provide a basis for the further system development and guide future studies of relevant data/information fusion concepts and technologies for applications to Anti-Submarine Warfare (ASW) and Mine Warfare. This project supports NRP-124. The advisors are Mark Rhoades and Mike Green of Systems Engineering and the team members are Michelle Bones, CDR Leonard Bunch, USN, Kenneth Fisher, Stephanie Mara, LT Alex Stone, USN.

By Senior Lecturer Mike Green

Alumni News

SE alumni awarded patent for their thesis work

LT. Raymond Davis and LT. Patrick Livesay, received a patent, May 15, 2018 for their invention "Automated Multi-Plane Propulsion System." The invention is a rapid, swarm-capable unmanned aerial vehicle (UAV) launch system. The student invention was used by the Service Academies in a DARPA sponsored competition, which included the building of numerous copies. The patent is published as U.S. Patent No. 9,969,504. Lts. Davis and Livesay are graduates of NPS' Systems Engineering program.



Hon. Robert O. Work and LT Raymond Davis



Hon. Robert O Work and LT Patrick Livesay

Retirement of CAPT Victor 'Dirk' Bindi

NPS SE alumni Commander Victor 'Dirk' Bindi retired after 27 years of service on May 8, 2017. Capt Bindi completed his BS in Chemistry at the US Naval Academy in Annapolis in 1990 and an MS in Systems Engineering and Analysis in December 2006 at NPS, where he received the Northrop Grumman Award for Excellence in Engineering. He has served as F/A18 pilot and was the student Team Leader in the Systems Engineering and Analysis Cohort 8 (SEA-8) integrated project 'Littoral Undersea Warfare in 2025'. His final posting was as Deputy Command Information Officer at Naval Education and Training Command in Pensacola, FL. He is current CEO of Suncoaster Properties and COO of the Laguan Mar Corporation, both in Pensacola, Florida.

Written by D Ravi Vaidyanathan

Winter Quarter Graduation



Photos by NPS PAO Office

Asst. Secretary of the Navy, Robert Woods delivers the commencement address for the Naval Postgraduate School (NPS) Winter Quarter Graduation ceremony in King Auditorium, March 30. NPS

honored 250 graduates representing every branch of the U.S. military, as well as Department of Defense civilians and 95 international students from 15 nations.

[Click here for the full article.](#)

Doctor of Philosophy in Systems Engineering

CDR Kathleen Giles, USN

Master of Science in Engineering Systems

Mr. Eric Wright
LT Alan Hough, USN
LT Mark Rice, USN
Mrs. Karoly P. Qader
Mr. Allen J. Bullard
Mr. Matthew R. Schumacher

Master of Science in Systems Engineering

MAJ Eric Northam, USMC
MAJ Robert Guyette, USMC
MAJ Kevin Koyama, USMC
MAJ James Pruden, USMC
MAJ Zachary Keefer, USA
MAJ Cameron Keogh, USA
LCDR Ryan Brack, USN
LCDR William Dann, USN
LCDR Alex Dulude, USN
LCDR Jedediah Magda, USN
LCDR Anthony Palladino, USN
LT Christopher Wright, USN
LT Scott Elwell, USN
Mr. John Cook
Mr. Matthew Empfield
Mr. Thomas Fahed
Mr. Gregory Ferrell
Ms. Laura Ann Gilmour
Mr. Alexander Gray
Mr. Carl Griffin
Mr. Ismail Hassen
Mr. Michael Jaffee
Mr. Steven Lofy
Mr. Matthew RMalone
Mr. Abusyed Mashfiqzaman
Mr. Michael Melnyk
Mr. William Redmond III
Mr. Robert Schumacher III
Mr. Nicholas Skalamera
Mr. Andrew Todd
Ms. Cheryl Young



Associate Professor, Andy Hernandez; CDR. Kathleen Giles, PhD; Associate Professor, Kristin Giammarco



Asst. Secretary of the Navy, Robert Woods and Mr. Matthew Schumacher

Meyer Award Winners

The Meyer Award for Outstanding Student in Systems Engineering (Distance Learning) is presented to an outstanding Department of Defense graduate of each Distance Learning Systems Engineering degree program who has demonstrated superior academic performance. This quarter, the award was presented to LCDR. Jedediah Jon Magda, USN and Mr. Matthew A. Empfield, Naval Air Warfare Center, Aircraft Division.



Associate Professor Andy Hernandez, Mr. Matthew Schumacher, and CDR Kathleen Giles



CDR Kathleen Giles, Mr. Matthew Malone, Mr. Matthew Schumacher, Mr. Michael Jaffee, and Mr. Abusayed Mashfiquzzaman

Spring Quarter Graduation



Photos by NPS PAO Office

Vice Adm. Jan E. Tighe, Deputy Chief of Naval Operations for Information Warfare and Director of Naval Intelligence, and former NPS President, addresses Spring Quarter graduates during the Commencement Ceremony in King Auditorium, June 15.

[Click here for full article](#)

Master of Science in Systems Engineering

CPT. Todd Howe, USA **
CPT. Rondolf Moreno, USA
LT. Mario Granata, USN
ENS Edward Hanlon, USN * **
LT. Daniel Michnewich, USN *
LT. Wyatt Middleton, USN
LT. Joshua Ramseur, USN
LT. Travis Turner, USN * **
LT. Andrew Whitmer, USN
LT. Patrick Frain, USCG
LCDR. Andrew Pritchett, USCG
CDR. Leonard Bunch, USN
LT. Scott Gildemeyer, USN
LT. Adrien Malone, USN
LCDR. Vincent Ragona, USN
LT. Alex Stone, USN
Mr. Hadi Bah Jr
Mr. Jose Balderrama
Mrs. Michelle Bones
Mr. Christopher Carr
Mr. Alan Crocker
Mr. John Engberg



LT. Daniel Michnewich, USN; LT. Wyatt Middleton, USN; LT. Joshua Ramseur, USN



VADM Tighe and LCDR. Andrew Pritchett, USCG



CPT. Ron Moreno, USA and CPT. Todd Howe, USA

Mr. Jahdiel Franco
Mr. Jonathan Fraser
Mr. Dean Liensdorf
Mr. Michael Logan
Mrs. Cheryl Mierzwa
Mr. Oscar Pineiro
Mr. Nicholas Samos
Mr. Lewis Shattuck
Mr. Isaac Veale

Master of Science in Engineering Systems

LCDR Paul Evans, USN
LCDR Dale Hager, USN (Ret.) *
Mr. Prescott Chartier, Jr.
Mrs. Stephanie Mara
Mrs. Mia Moore
Ms. Kelly Mugerditchian
Mr. Stephen Pease
Ms. Gabrielle Salo
Ms. Melissa Suursoo

Master of Science in Systems Engineering Analysis

LCDR Jieshen Jackson Hong, Singapore Navy**

Master of Science in Systems Engineering

LT. Christopher Popa, USN
LT. Sydney Stone, USN

* Student recognized for "Outstanding Thesis"

** Student recommended for "With Distinction"



VADM Tighe and LT. Chris Popa, USN



LT. Andrew Whitmer, LT. Travis Turner, ENS. Ned Hanlon, LT. Mario Granata

Meyer Award Winner

The Meyer Award for Outstanding Student in Systems Engineering (Distance Learning) is presented to an outstanding Department of Defense graduate of each Distance Learning Systems Engineering degree program who has demonstrated superior academic performance. This quarter, the award was presented to LCDR Paul K. Evans and Mrs. Cheryl E. Mierzwa.



Mrs. Cheryl Mierzwa and Professor Gene Paulo

Faculty News

Newest SE Faculty Member



Dr. Douglas L. Van Bossuyt recently joined the SE Department as an assistant professor. He comes to NPS from running a startup focusing on machine vision and vision-guided robotics for manufacturing and factory automation. Dr. Van Bossuyt was previously an assistant professor at the Colorado School of Mines where he was in the Department of Mechanical Engineering and attached to the Nuclear Science and Engineering Program. He previously worked as a probabilistic risk assessment engineer at NuScale Power, LLC where he helped to design the next generation of American light water pressurized nuclear reactor. Dr. Van Bossuyt earned a PhD in mechanical engineering with a minor concentration in industrial engineering at Oregon State University in the Mechanical, Industrial, and Manufacturing Engineering Department through the Complex Engineered Systems Design Laboratory. His dissertation research focused on risk-informed design of complex systems in conjunction with JPL and Boeing. His current research activities focus on emergent system behavior and how to better design systems to prevent system failures.

FACULTY AWARDS



**Professor of Practice Warren Vaneman and
Professor Gene Paulo**

Warren Vaneman

SE Professor of Practice, Warren Vaneman was presented the Meyer Award for Teaching Excellence in Systems Engineering (Distance Learning) for the AY18 Summer Quarter. The award is presented to an outstanding faculty member of each Distance Learning Systems Engineering degree program who is recognized by the students for teaching excellence and/or exceptional contributions to the student's overall learning experience.



Senior Lecturer Mark Stevens

Mark Stevens

SE Senior Lecturer, Mark Stevens was presented the Meyer Award for Teaching Excellence in Systems Engineering (Distance Learning) for the AY18 Summer Quarter. The award is presented to an outstanding faculty member of each Distance Learning Systems Engineering degree program who is recognized by the students for teaching excellence and/or exceptional contributions to the student's overall learning experience.



Tony Pollman

**President Ronald Route and Assistant Professor
Tony Pollman**

SE Assistant Professor, Tony Pollman, was presented the Naval Postgraduate School Foundation/U.S. Naval Institute Annual Essay Contest Award at the NPS June Quarterly Awards Ceremony. The United States Naval Institute (USNI) will publish the winning essay in the June issue of Proceedings magazine.

Request for Alumni News!

The SE Department is interesting in hearing how our alumni are doing. Please feel free to send the [editor](#) news items for inclusion in future newsletters.

Please visit our [NPS SE Website!](#)

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