



RESEARCH AT NPS



Congratulations to **LCDR William Swick, USN**, for his successful defense of his dissertation, "Field and Numerical Study on Natural River Mixing."

The primary goal of LCDR Swick's work is to understand and predict Lagrangian behavior in natural riverine systems through a series of comprehen-

sive field studies conducted in several northwest-American rivers. A new technology of GPS-equipped drifters and tracer observations are compared to the underlying river morphology and used to validate a numerical model Delft3D.

Mixing in several natural rivers is investigated using comprehensive point-source dye experiments, Lagrangian GPS-equipped drifter observations and a validated three-dimensional hydrodynamic model. The high spatial and temporal observations provide estimates of mixing that were previously unobtainable. The presence of river irregularities are shown to greatly enhance the local streamwise and transverse dif-

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BROWN-BAG SEMINAR SERIES

WA-302, 1200-1300

- Wednesday, 13 July: Legal Issues of Concern to PIs
- Wednesday, 17 August, NPS Proposal Requirements

DURIP AWARDS

The Defense University Research Instrumentation Program (DURIP) supports university research infrastructure essential to high quality Navy relevant research. Three NPS submissions were successful in this year's round of proposals.

"Bathymetric Mapping for Change Detection in Harbor and Riverine Environments," submitted by **Research Associate Professor Doug Horner**, Department of Mechanical and Aerospace Engineering, enables the purchase of two bathymetric, forward-looking sonars for an autonomous underwater and surface vehicles. The purpose is to research efficient navigational algorithms that take sonar input to produce consistent and highly accurate subsurface maps of harbors or rivers.

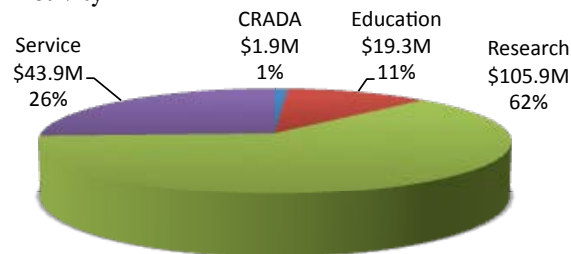
Professor Ching-Sang Chiu, Department of Oceanography, won for his submission, "32-Channel Digitizer for a Moored Hydrophone Array for Low- to Mid-Frequency, Shallow-Water, Acoustics Experiments." The equipment will complement two other such arrays, one at ARL, University of Texas, Austin, and the other at Wood's Hole, adding diversities in the frequency and angular regimes as well as horizontal coverage.

A truck with personnel and equipment shelter, power plant, radar lift, and platform levelers for NPS's modified AN/MPQ-64 air-defense X-band radar was sought by **Hafidi Jonsson** of CIRPAS in his submission, "Deployment Equipment for a Mobile Weather Radar." The radar system equipment is used in storm research and must be stout and easily deployable.

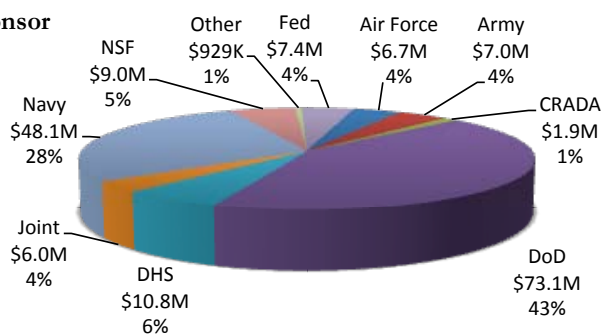
SPONSORED PROGRAMS STATUS, MAY 2011

FUNDS AVAILABLE: \$171M

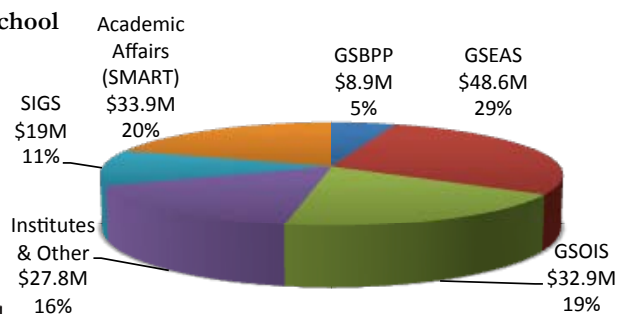
By Type of Activity



By Sponsor



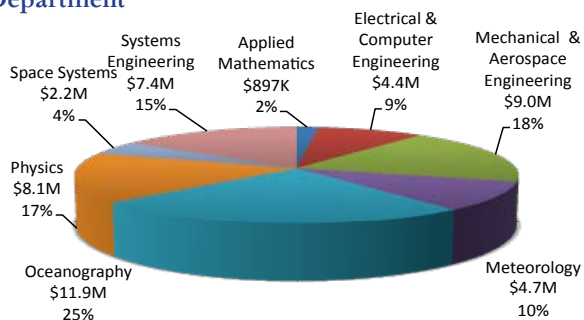
By School



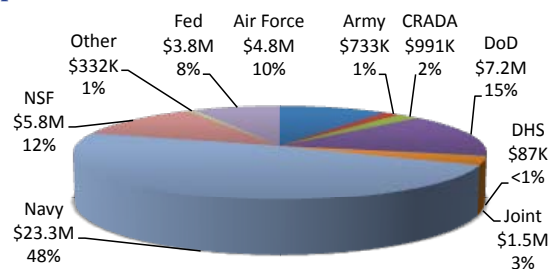
Graduate School of Engineering and Applied Sciences

Funds available to date: \$48.6M

By Department



By Sponsor



Projects funded in May

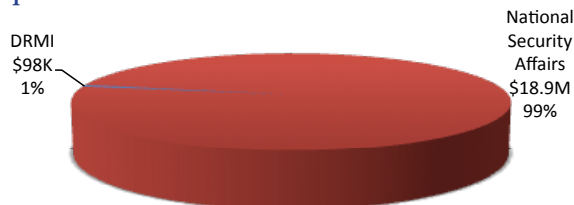
- Ohio Replacement Program Power Electronics Performance System Evaluation, *Bob Ashton, ECE* (NSWC-Carderock)
- Railgun Power Supply, *Alex Julian, ECE* (ONR)
- Gusty Oriole, *Herschel Loomis, ECE* (SAF/FMBIB)
- Numerical Solution of First Order Partial Differential Equations of Nonlinear Control, *Art Krener, MA* (AFOSR)
- Maritime Beam Control, *Brij Agrawal, MAE* (ONR)
- Transmission Electron Microscopy Specimens w/Focused Ion Beam Technique, *Luke Brewer, MAE* (NSWC-Carderock)
- Constant Volume Combustion Technology Development, *Chris Brophy, MAE* (AFRL)
- Missile Propulsion Short Course, *Chris Brophy, MAE* (NAWC-China Lake)
- Characterization of Fuel Nozzle Atomization Properties, *Chris Brophy, MAE* (NAVSEA)
- Missile Guidance and Control Short Course, *Chris Brophy, MAE* (NAWC-Weapons Division)
- Ahead Look Sonar, *Doug Horner, MAE* (ONR)
- Autonomous USV Navigation in Riverine Environments, *Doug Horner, MAE* (ONR)
- Hot Corrosion Marine Gas Turbine Components, *Sarath Menon, MAE* (ONR)
- Physically Interacting, Unmanned Vehicles Experimentation, *Marcello Romano, MAE* (Univ of Singapore)

- Evaluation of the ECMWF Ensemble Forecast Products for Western North Pacific Tropical Cyclone Formation, *Russ Elsberry, MR* (ONR)
- Mountainous Terrain Atmospheric Modeling and Observations Program, *Josh Hacker, MR* (ONR)
- Aircraft Observations for Improved Physical Parameterization for Seasonal Prediction, *Qing Wang, MR* (ONR)
- Air-Sea Coupling Processes and Model Predictions Using Gotex Measurements and COAMPS/NCOM, *Qing Wang, MR* (ONR)
- Shipboard Monitoring of California Current System, *Curt Collins, OC* (NOAA)
- Characterization and Classification of Marine Mammal Vocalizations, *Curt Collins, OC* (CNO)
- Wave-current Interaction in Coastal Inlets and River Mouths, *Thomas Herbers, OC* (ONR)
- High Sensitive Thz Camera for Space Situation Awareness, *Gamani Karunasiri, PH* (NRO)
- MEMS Bi-Material Focal Plane Array for Real Time Thz Imaging, *Gamani Karunasiri, PH* (ONR)
- Target Studies, *Chris Olsen, PH* (SAF/FMBIB)
- Seaweb Through Water, *Joe Rice, PH* (ONR)
- SEM/PD-21, *Wally Owen, SE* (Various)
- Space Systems Engineering Experience Tour and Engineering Support, *Rudy Panbolçer, SP* (NRO)

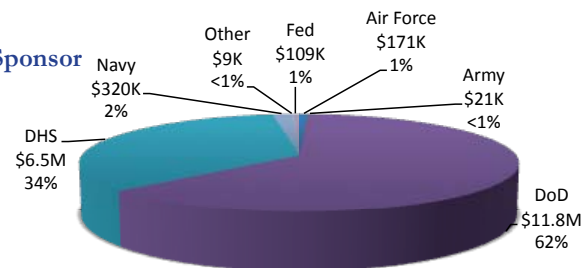
School of International Graduate Studies

Funds available to date: \$19M

By Department



By Sponsor



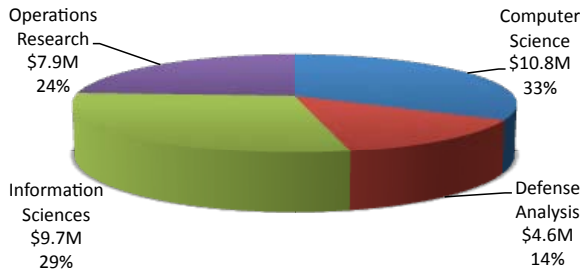
Projects funded in May

- Narrative Networks (N2) Support for DARPA STORyNET, *Tom Johnson* (DARPA)
- CHDS Fusion Center Leaders Program-1102, *Ted Lewis* (DHS/OPO)
- 91, CHDS Fusion Center Leaders Program-1102, *Ted Lewis* (DHS/OPO)

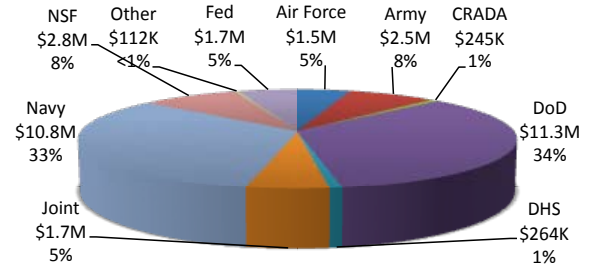
Graduate School of Operational and Information Sciences

Funds available to date: \$32.9M

By Department



By Sponsor



Projects funded in May

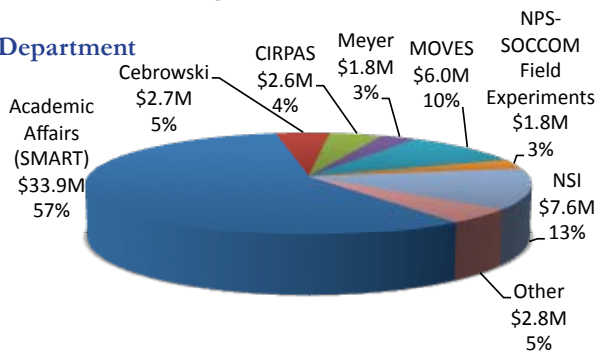
- Navy Certifier Program Special Offering, *Karen Burke, CS* (USMC - Network Op & Security Center)
- Requirements for Centers of Academic Excellence in Cyber Operations, *George Dinolt, CS* (NSA)
- Investigation of Ways to Leverage Cloud Computing in the Tactical Environment, *Bret Michael, CS* (OSD)
- LPD 17 Network Study, *Bret Michael, CS* (PEO C4I)
- Axis of More Trouble: 21st Century Cultures of War, *Anna Simons, DA* (OSD)
- Field Information Support Tool (FIST), *James Ehlert, IS* (NSWC-Dahlgren Division)
- A Short Course in the IBM Modeler 14.1 Software, *Sam Buttrey,*

- OR (USAREC)
- Assessing Strategic Mobility and Combat Logistics, *Matt Carlyle, OR* (OPNAV)
- NPS Business Case Analyses, *Rob Dell, OR* (OSD)
- NPS Cost Analysis Support for Cape, *Greg Mislick, OR* (OSD)
- Seed Center Support to Cultural Geography Model Scenario and Data Analysis, *Paul Sanchez, OR* (TRAC-MONTEREY)
- Curriculum for the Distance Learning Master of Human Systems Integration Program, *Larry Shattuck, OR* (NAVSEA)
- NAVICP Forecasting Model Validation, *Christian Silvestrini, OR* (NAVICP)

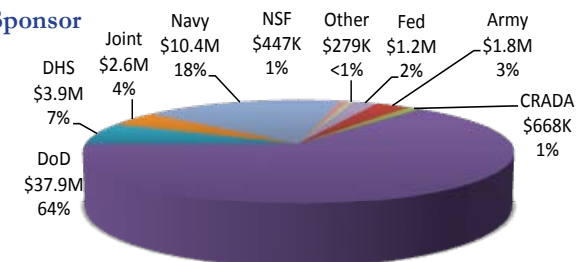
Research and Education Institutes, Centers, and Other

Funds available to date: \$27.8M

By Department



By Sponsor



Projects funded in May

- GPOI Peacekeeping Operations Training Central Asia, *Alan Howard, Office of the Provost* (NETSAFA)
- The Cross-cultural Implications of Trust, *Alan Howard, Office of the Provost* (AFRL)
- Program on Counter Directed Energy Weapon Research, *Sri Sriharan, Office of the Dean of Research*, (ONR)
- Test Bed Support, *CDR Joe Sullivan, USN, MOVES* (DARPA)
- Examining Tools and Methods for Assessment of Network Security and Interoperability, *CDR Joe Sullivan, USN, MOVES* (DOT&E)
- COCOM Focused Field Experimentation, *Ray Buettner, USSO-*

- COM-NPS Field Experiments (ARL)
- Unicorn UAV Operations at Camp Roberts Project, *Bob Bluth, CIRPAS* (ARL)
- Lockheed Martin SUAV Flight Range Use, *Bob Bluth, CIRPAS* (Lockheed Martin)
- Improving Regional VOC Emission Estimate, *Bob Bluth, CIRPAS* (UC Berkeley)
- NPS/CIRPAS Support of Office of Naval Research Airborne Research Objectives, *Hafidi Jonsson, CIRPAS* (ONR)

...GSBPP statistics on page 8

Pb.Ds, continued from page 1

verse diffusivity due to large scale horizontal coherent flow structures. Tracer study transverse diffusivity was initially small and increased following channel features. Model simulations compared well with field observations. Idealized bathymetric features reveal transport is dominated by the mean flow and combined channel feature influence is nonlinear.

Lagrangian analysis of continuous drifter observations describe fine-scale natural river processes and provides quantitative estimates of the mean flow field, pathways, and spatial variability of mixing in natural rivers. Near-field diffusivity estimates are shown to be independent of drifter deployment location and the effect of river bend's on streamwise and transverse diffusivity is quantified. Single-particle streamwise diffusivity increased linearly associated with turbulence and velocity shear. Two-particle streamwise diffusivity scales as Richardson-like. Reaches with numerous bends resulted in anomalously small two particle diffusivities scaling with river bends owing to surface flow convergence. Transverse length scales $>20\text{m}$ are predominantly random.

Also receiving a doctorate in the spring 2011 quarter is **LT Spyridon Dessalermos, Hellenic Navy**. LT Spyridon's dissertation on engineering acoustics, advised by **Associate Professor Roberto Cristi, ECE**, concerns the development of an adaptive receiver for underwater communication.



Kootenai River, ID, instrument deployment. From left, Asst. Prof. Jamie MacMahan, doctoral candidate William Swick, Ron Cowen, Distinguished Prof. Emeritus Ed Thornton, Will Ashley



Seaweb underwater network, showing acoustic links between buoys and submersibles, possible satellite links

In this type of wireless link, the radio channel is replaced by an underwater acoustic channel which is strongly dependent on the physical properties of the ocean medium and its boundaries, the link geometry and the ambient noise. Traditional acoustic communications have involved a priori matching of the signaling parameters to the expected characteristics of the channel.

To achieve more robust communications, as well as high quality of service, it is necessary to develop a type of adaptive receiver for the acoustic link. This process involves estimating the channel scattering function by processing the received Direct Sequence Spread Spectrum acoustic signal. This information is used by an innovative receiver introduced for usage in the underwater environment. The research also involves the development of a robust acquisition system for the acoustic communication signal. The major design goal is the receiver's robustness on a Doppler distorted fast-varying multipath fading channel, for applications in multiuser environments. An important design goal is low complexity in signal processing. The proposed receiver can

adapt to acoustic channel variations. Experimental results prove the effectiveness of the receiver. Underwater communication networks are important for the US Navy. Information is exchanged between buoys, underwater vehicles and ships in an environment which can be very challenging specially in shallow water.

CONTACT FREE MEASUREMENT OF MOBILITY-LIFETIME PRODUCT USING TRANSPORT IMAGING

MAJ Kevin Blaine, USA, a double major in applied mathematics and physics, made a significant contribution in his thesis work to the development of a novel technique for the characterization of materials for use as nuclear radiation detectors. In work supported by the Domestic Nuclear Detection Office (DNDO) of the Department of Homeland Security, MAJ Blaine developed a mathematical model to determine the diffusion length for electrons in solids based on optical images taken in a scanning electron microscope. His thesis work demonstrated, for the first time, the ability to measure important electronic material parameters from a single optical image, without requiring any electrical contact to the material. This work will assist in the growth and characterization of a new generation of radiation detector materials in support of the Global Nuclear Detection Architecture, a worldwide infrastructure designed to detect attempts to import or transport a nuclear device or radiological material



MAJ Kevin Blaine at the SEM in the Advanced Materials and Devices Laboratory

intended for illicit use. Following graduation, MAJ Blaine will be a mathematics instructor at the US Military Academy at West Point. **Distinguished Professor Nancy Haegel** served as Blaine's advisor.

From May 3–13, 2011, NPS faculty from the Cebrowski, Meyer and MOVES institutes joined colleagues from computer science, mechanical and aerospace engineering, meteorology, oceanography, information sciences, defense analysis and physics in wrapping up TNT 11-3, the latest iteration of the USSOCOM–NPS Field Experimentation Cooperative at Camp Roberts.

The annual May events have historically been smaller; 11-3 disrupted this trend. Besides regular mission-based experimentation (MBE) and capability-based experimentation (CBE), the team supported an OSD-sponsored Joint force-protection effort, two JIEDDO projects, and our own HADR focused research and experimentation for local and international emergency and first responders (RELIEF). Emphasis may differ, but these activities all form part of the multi-institutional, semi-structured learning environment that the cooperative creates for each TNT event.

Students involved were doctoral candidate and Netzer fellows **Charles Hewgley**, **Carl Oros (IS)**, **Alicemary Adams (MOVES)** and **Tristan Allen (CS)**, and

Cebrowski interns **Nelly Turley**, **Tristan Allen**, and **Rosa Akbari**, mixed with students from IS, CS, MAE, IW, JC4I, Combat Systems and National Security Affairs. The OSD-FP effort sponsors one of our JC4I student’s thesis, as well as participating in the quarterly events, and RELIEF has directly supported thesis work by one of our Pakistani officers and US students. I am looking at ways to make more students aware of the potential for this venue to support thesis research and expect these numbers to increase over time. Engaging our students in war fighter driven S&T efforts remains a primary purpose for NPS field experimentation efforts.

This TNT garnered media attention with both NPS (Inside NPS) and SOCOM videographers doing stories as well as visits by affiliates of CBS, ABC and NPR news organizations. Alan Richmond coordinated these visits and we have been able to showcase the work of Dr. Alex Bordetsky as a vehicle for telling the story of NPS uniqueness and relevance. SOCOM’s new TNT Technical Experimentation video, featuring an NPS professor was presented yesterday

at the annual Special Operations Forces Industry Conference (SOFIC) in Tampa.

For the first time ever, we had S&T representatives from all five of SOCOM’s constituent entities (NSW, AFSOC, USASOC, MARSOC and JSOC) in attendance along with SOCOM’s S&T Deputy Director. Both the SOCCENT and SOCPAC Science Advisors attended as did representatives from NOTRHCOCOM and CENTCOM S&T shops. The DoD research community was represented by AFRL, NRL, DARPA, NASW China Lake, NSWC Dalhgren, NSWC Crane and ONR. DOE, DHS and CALFIRE were among the non-DOD government participants while Harvard, Stanford, UA-Huntsville, GTRI and CMU SEI engaged from the academic community. In addition to the Special Operations Research Support Element (SORSE) team we had enlisted war fighter representation from the 23rd Marines, the National Guard’s Task Force Warrior and the 19th Special Forces Group. A few SEALs rounded out the “end user” community. In addition to our typical handful of SES visitors we were also visited by Dan Wessel, Senator Feinstein’s Senior

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A DAY AT CAMP ROBERTS



Clockwise from left: Peter Guest (MR) releasing a weather balloon as part of his research during the event; research associate and NSA student Nelly Turley carrying equipment needed to set up a field shelter; NPS’s Special Operations variant of HMMWV supporting a JIEDDO-funded C-IED research project with GTRI, led by research associate and IS PhD student Carl Oros; UAS in flight with system installed; Kevin Jones (MAE) installing a portable counter-sniper system to a UAS.

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Field Representative. Over 70 industry entities added more “multi” to this multi-institutional event.

Forty six planned experiments were conducted including several that were in direct support of NPS student thesis work. Two of these, one focused on designing counter sniper UAS systems and the other on UAS delivery of taggant agents explore providing add-on capabilities to already deployed UAS systems with the potential to greatly increase capability at minimal cost.

These research efforts were each the subject of SOCOM Spotlight videos during the event. As usual, industry participants collaborated between themselves to demonstrate new capabilities that had not occurred to them previously.

One of our RELIEF experiments had virtual participants around the planet engaged in real time to process thousands of text messages collected during the Haitian earthquake as part of a new distributed micro-tasking model. In all we had 488 total attendees focused on exploring new capabilities in support of the special operations community. We continue to emphasize pushing capabilities and technologies to the war fighter on the edge, be that for combat or HADR missions.

These events are the result of collaboration across the SOCOM components and across the NPS campus with the Center for Remotely Piloted Aircraft Studies (CIRPAS), the Center for Autonomous Vehicle Research (CAVR) and the Center for Network Innovation and Experimentation (CENETIX) all playing major roles in planning and executing the events.



Experiment supporting OSD-sponsored work on improving force protection on the battlefield

STUDENT RESEARCH RESULTING FROM FX PROGRAM

During the last decade, research has intensified in the area of autonomous aerial delivery systems (ADSs). These are autonomous vehicles that are deployed in the air from an aircraft, rocket, or balloon and descend to the earth under a steerable round parachute of rectangular parafoil canopy. Modern ADSs have achieved a high degree of accuracy in guiding toward a fixed target on land.

Advanced guidance algorithms being developed at the NPS Aerodynamic Decelerator Systems Center under the direction of **Professor Oleg Yakimenko** strive to enable landing of an ADS on a moving platform such as a ship at sea.

CDR Charles Hewgley, USN, is one student conducting research in the ADSC. His dissertation, entitled "Autonomous Parafoils: Toward a Moving Target Capability," is aimed at solving problems needed to enable such capabilities as resupply of a ship underway using an ADS. Field experimentation has been vital to this research effort, with testing of the "Snowflake" ADS being conducted each quarter at Camp Roberts as part of the TNT program.

CDR Hewgley is scheduled to graduate in September 2011 with a Ph.D. in Electrical and Computer Engineering, after which time he will report to the faculty of the U.S. Naval Academy in Annapolis, Maryland, to teach in the Electrical and Computer Engineering department.

As part of their thesis work, IW students **Capt Dino Cooper, USMC**, and **Capt Derek Snyder, USMC**, have been developing kits that can extend the utility of small, unmanned air systems (SUAS) to meet

current needs for the warfighter. **Associate Professor Ray Buettner** is advisor.

Capt Cooper has been looking at the use of the RQ-11 Raven SUAS to disperse chemical taggants in remote areas. The developed kit is mounted on the Raven in a few minutes, without requiring any permanent modifications to the airframe or control system, and only requires a few minutes of training to utilize. Through experiments in the USSOCOM-NPS Field Experimentation Program (known locally as TNT), held at Camp Roberts, CA, Capt Cooper's research

demonstrated the ability of a pilot to accurately disperse taggant over a remote target using only the standard Electro-Optical (EO) sensor on the Raven.

The Raven is an ideal candidate for immediate exploitation of his work, since there are thousands of the back-packable systems currently in theater; however, he has also explored several innovative new UAS concepts that are under development, including vertical takeoff-and-landing (VTOL) aircraft.



Snowflake in flight



Skate UAS system deploying a simulated Taggant agent in support of NPS student Capt Dino Cooper's thesis work

GRADUATE SCHOOL OF BUSINESS AND PUBLIC POLICY

Hsia, R.Y., Kellermann, A., and **Shen, Y.** 2011. Factors Associated With Closures of Emergency Departments in the United States. *JAMA*, 305 (19): 1978-1985.

Shen, Y., “Effects of Iraq/Afghanistan Deployments on Major Depression and Substance Abuse: Analysis of Still Active Personnel in US Military,” presented at the Navy Workforce Research and Analysis Conference, Arlington, VA, May 2011.

Dew, N., Read, S., Sarasvathy, S. D., & Wiltbank, R. (2011). On the entrepreneurial genesis of new markets: Effectual transformations versus causal search and selection. *Journal of Evolutionary Economics*, 21(2), 231-253.

Hsia, R. Y., Kellermann, A. L., & **Shen, Y.** (2011). Factors associated with closures of emergency departments in the united states. *Jama-Journal of the American Medical Association*, 305(19), 1978-1985.

INFORMATION SCIENCES

Nissen, M. E., & Burton, R. M. (2011). Designing organizations for dynamic fit: System stability, maneuverability, and opportunity loss. *IEEE Transactions on Systems Man and Cybernetics Part A-Systems and Humans*, 41(3), 418-433.

MECHANICAL AND AEROSPACE ENGINEERING

Elmstrom, M. E., **Millsaps, K. T.**, **Hobson, G. V.**, & Patterson, J. S. (2011). Impact of nonuniform leading edge coatings on the aerodynamic performance of compressor airfoils. *Journal of Turbomachinery-Transactions of the ASME*, 133(4), 041004.

Gordis, J. H., & **Kwon, Y. W.** (2011). Frequency domain structural synthesis for quasi-static crack propagation: Global-local analysis. *Computers & Structures*, 89 (9-10), 762-771.

Gordis, J. H., & Papagiannakis, K. (2011). Optimal selection of artificial boundary conditions for model update and damage detection. *Mechanical Systems and Signal Processing*, 25 (5), 1451-1468.

Kwon, Y. W. (2011). Study of fluid effects on dynamics of composite structures. *Journal of Pressure Vessel Technology-Transactions of the ASME*, 133(3), 031301.

Yoon, H., Bateman, B. E., & **Agrawal, B. N.** (2011). Laser beam jitter control using recursive-least-squares adaptive filters. *Journal of Dynamic Systems Measurement and Control-Transactions of the ASME*, 133 (4), 041001.

METEOROLOGY

Hacker, J. P., **Ha, S.**, Snyder, C., Berner, J., **Eckel, F. A.**, Kuchera, E., et al. (2011). The U.S. air force weather agency’s mesoscale ensemble: Scientific description and performance results. *Tellus Series A-Dynamic Meteorology and Oceanography*, 63 (3), 625-641.

Hacker, J. P., Snyder, C., **Ha, S.**, & Pocerlich, M. (2011). Linear and non-linear response to parameter variations in a mesoscale model. *Tellus Series A-Dynamic Meteorology and Oceanography*, 63 (3), 429-444.

NATIONAL SECURITY AFFAIRS

Robert Weiner, “Why So Little Strategy? District-level Electoral Entry in Theory and Practice,” *Commonwealth and Comparative Politics* 49:1 (February 2011), 29-47.

OCEANOGRAPHY

Radko, T. (2011). Mechanics of thermohaline interleaving: Beyond the empirical flux laws. *Journal of Fluid Mechanics*, 675, 117-140.

Hampson, R., **MacMahan, J.**, & Kirby, J. T. (2011). A low-cost hydrographic kayak surveying system. *Journal of Coastal Research*, 27(3), 600-603.

OPERATIONS RESEARCH

Emily M. Craparo, Jonathan P. How, and Eytan Modiano: Throughput Optimization in Mobile Backbone Networks. *IEEE Transactions on Mobile Computing*, 10(4): 560-572 (2011)

E. Craparo, R. Koyak, **R. K. Wood**, and **S. Buttrey**. Graph-theoretic Statistical Procedures for Signal Detection. Invited presentation at the DTRA/NSF Algorithms Workshop, Boston MA, June 7-9 2011.

PHYSICS

Barton, Robert J., III, **Smith, K. B.**, & Vincent, Harold T., II. (2011). A characterization of the scattered acoustic intensity field in the resonance region for simple spheres. *Journal of the Acoustical Society of America*, 129(5), 2772-2784.

Fluegel, B., Alberi, K., Bhusal, L., Mascarenhas, A., Snoke, D. W., **Karunasiri, G.**, et al. (2011). Exciton pattern generation in GaAs/AlxGa1-xAs multiple quantum wells. *Physical Review B*, 83(19), 195320.

Ong, C. W., **Boey, C. W.**, **Hixson, R. S.**, & **Sinibaldi, J. O.** (2011). Advanced layered personnel armor. *International Journal of Impact Engineering*, 38(5), 369-383.

SPACE SYSTEMS

Assistant Professor LtCol Tim Sands, USAF, is the winner of the MOAA Joint Service Warfare award for the winter quarter .

SYSTEMS ENGINEERING

Huynh, T. V. (2011). Orthogonal array experiment in systems engineering and architecting. *Systems Engineering*, 14(2), 208-222.

Please submit faculty research news items to research@nps.edu.

TECHNICAL SERVICES AGREEMENT (TSA)

Lockheed Martin SUAV Flight Range Use

Partner: Lockheed Martin Corporation

PI: Robert Bluth, CIRPAS

Summary: NPS/CIRPAS will provide pre-flight coordination, flight coordination, range management, flight safety and facility management of Lockheed Martin’s testing activities at the CIRPAS facility and will ensure compliance with all CIRPAS policies and procedures.

Department of Defense and NOAA/NMFS/Southwest Fisheries Science Center (SWFSC), U.S. Department of Commerce (DOC), through which Southwest Fisheries Science Center will pay the Naval Postgraduate School for oceanographic data and analyses of the California current captured on a cruises off Monterey Bay.

Partner: Naval Medical Administrative Unit

NPS POC: Kerry Yarber, Research Safety Office

Summary: The purpose of this agreement is to establish the procedures and points of contact for the Naval Postgraduate School (NPS) Laser Medical Surveillance Program (LMSP)

MEMORANDUM OF UNDERSTANDING (MOU)

Partner: NOAA National Marine Fisheries Service

NPS POC: Curt Collins, Department of Oceanography

Summary: The Memorandum of Understanding (MOU) establishes an agreement between the Naval Postgraduate School (NPS), U.S.

Partner: Presidio of Monterey U.S. Army Health Clinic

NPS POC: Ryan Greve, Research Safety Office

Summary: The purpose of this agreement is to designate Presidio of Monterey, U.S. Army Health Clinic to act as the radiation health record custodian for NPS

TECHNICAL REPORTS PUBLISHED

NPS-PH-11-001 Analysis of Linear Acceleration Measurements Taken on PHALANX CIWS System 347 S. Baker
 During Live-Fire Testing Conducted at China Lake, 18 August 2009: Test Configuration, Linear Acceleration Time Series and Power Spectral Density Spectra.

NPS-DRMI-11-001 The Cost-Effectiveness of Humvee Armor and Mine Resistant Ambush Protected Vehicles in Iraq C. Rohlf, R.Sullivan

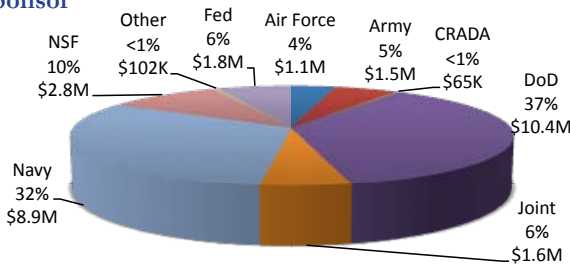
Technical reports may be obtained at <http://www.nps.edu/Research/TechReports.html>

continued from page 3

Graduate School of Business and Public Policy

Funds available to date: \$8.9M

By Sponsor



Projects funded in May

- Realizing a Positive Return from Financial Audits, *Bill Gates*, OASN (FM&C) FMA
- Supply Chain Management for Health Care (course and case), *Keebom Kang*, Department of Veterans Affairs
- NAVSEA-Chair of Acquisition and Acquisition Research Program, *Keith Snider*, NAVSEA
- Innovation Research, *James Suchan*, ONR

ELECTRONIC PROPOSAL SUBMISSIONS: PROCESS

Using electronic means to submit proposals to competitive solicitations has increased. NSF’s FastLane has been used many years, but more agencies are using Grants.Gov or their own sites to assure timely submissions. RSPO staff are well-versed in these portals and complete submissions on behalf of NPS, assisting with formatting and budget development.

Due to the increase in these submissions and because submissions are time stamped to assure timely arrival, RSPO staff must be alerted if a PI is planning a submission and all documents must be received n time for review and submission. We request that PIs notify RSPO as soon as they have decided on a submission and work out a time line with us to complete documentation at least

twenty-four hours prior to submission. This means that RSPO should receive input no later than three working days before submission. Staff will ensure that submission requirements are met. An electronic submission of a proposal does not obviate department/institute/dean review. If the signed standard NPS proposal page is not received with the proposal documentation, the RSPO will staff the proposal via email to the PI’s chair/dean or director/dean, as applicable, before submitting the proposal electronically to the sponsor.

Again, TIMELINESS in receipt of documentation is a necessity to assure both NPS and sponsor submission requirements can be met. Questions, please email research@nps.edu.