



## RESEARCH AT NPS

Welcome to the second edition of *Research at NPS*. We are continuing this monthly publication with the regular “statistics” highlighting sponsored-program activity at NPS to date. With the vision of the NPS strategic plan to broaden research in national security, the trends indicate significant progress towards that goal.

With this edition, we have included articles focusing on new tenure-track faculty. Our faculty are the backbone of NPS. The Research Initiation Program provides support to new faculty in their first two years to assist in establishing a research program in line with the unique mission of NPS. Three new members of the National Security Affairs

department are featured this month.

As most of you know, a Command IG inspection is scheduled for August 2009. One of the special interest items of the IG are NPS reimbursable programs. Because of the growth in NPS sponsored activity, there is concern about processes/infrastructure in place to handle the growth. Several tools have been put in place, e.g., the DORS/DMAS web reports, to assist the PI. The attestation process is also a tool to assist with accountability. The “web” version of this tool is now available on line and will allow the PI to review and attest from his desk. This should save time to what was a “very paper-intensive manual process.”

### IMPORTANT DATES

#### Briefing

- Online Attestation Tool, 13 July 1200–1300; 14 July 1000–1100; 16 July 1000–1100, ME Auditorium

#### Brown-Bag Seminar Series

- Use of Human Subjects in Research, Wednesday, 22 July, 1200–1300, SP 101A
- Research Initiation Program, Wednesday, 12 August, 1200–1300, SP 101A
- Working with Industry, Wednesday, 23 September, 1130–1230, SP 101A

#### Call for Proposals/White Papers

- Young Investigator Program  
Air Force Office of Scientific Research  
Proposal Deadline: 29 July
- Major Research Instrumentation Program (MRI-R<sup>2</sup>)  
National Science Foundation  
NPS White Paper Deadline: 15 July  
Proposal Deadline: 10 August
- SPAWAR Student Fellowship Program  
Proposals Due: 30 July

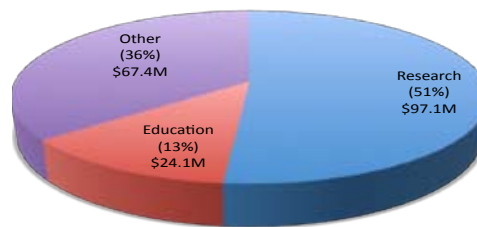
#### Research Board Meetings

The Research Board meets the fourth Thursday of each month at 1500. The Board comprises representatives from each academic unit on campus as well as Faculty Council representation. The Vice President and Dean of Research chairs the Research Board.

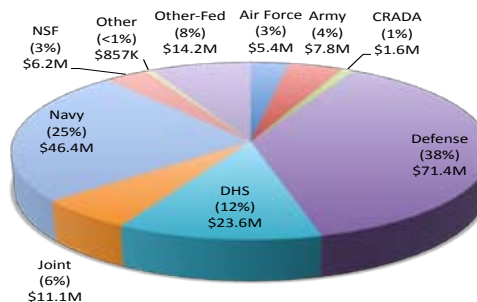
### SPONSORED PROGRAMS STATUS—JUNE 2009

Funds Received to Date: \$188.6M

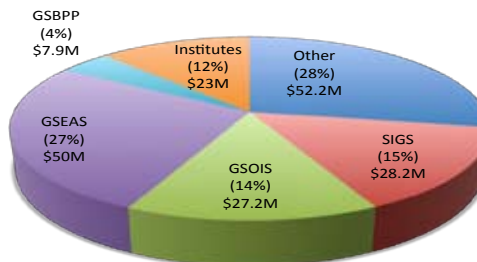
#### By Type of Activity



#### By Sponsor



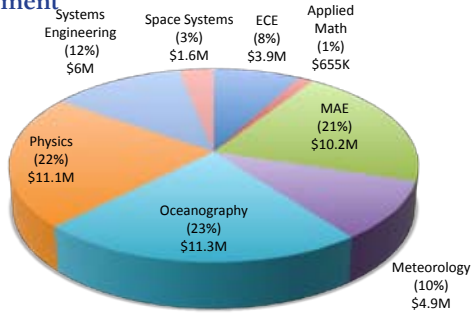
#### By School



# Graduate School of Engineering and Applied Sciences

Funds received to date: \$50M

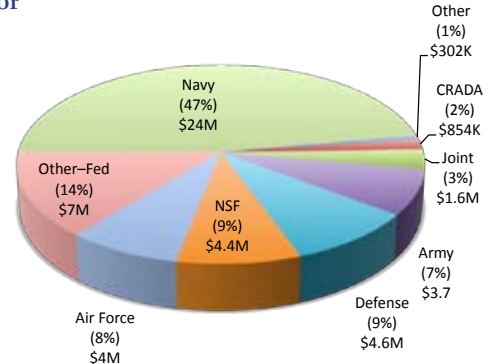
## By Department



## Projects funded in June:

- Counter- Directed-Energy-Weapons Research, *Sivaguru Sriharan, GSEAS* (ONR)
- Classified Advanced Technology Update Short Course (CATU), *Herschel Loomis, Electrical & Computer Engineering* (Various)
- Wideband Antenna Modeling, *Michael Morgan, Electrical & Computer Engineering* (NSWC-Dahlgren Division)
- Joint Intelligence Operations Center Business Process Model, *Richard Kimmel, Information Sciences* (DIA)
- Observability in Data Assimilation and Optimal Sensor Configuration, *Wei Kang, Applied Mathematics* (NRL)
- Workshop: Computational Issues in Nonlinear Control, *Arthur Krener, Applied Mathematics* (AFOSR)
- Steady and Unsteady Flow Experiments on Rotor Issues, *Muguru Chandrasekhara, Mechanical and Astronautical Engineering* (US Army Aero-Flight Dynamics Directorate)
- NAVAIR P3 Fatigue and Sustainment Project, *Ramesh Kolar, Mechanical and Astronautical Engineering* (NAVAIR)
- Pseudospectral Feedback Control for Space Applications, *Isaac Ross, Mechanical and Astronautical Engineering* (AFOSR)
- Passive Imaging System to Measure Atmospheric Scatter and

## By Sponsor

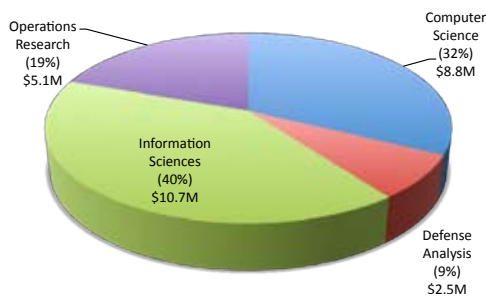


- CFLOS, *Paul Frederickson, Meteorology* (HEL Joint Tech Office)
- The 2009 North Pacific Acoustic Laboratory Workshop, *John Colosi, Oceanography* (Various)
- Drifter Trajectories Riverine, *James MacMahan, Oceanography* (ONR)
- Sealift Capability: Size, Composition and Employment, *Matt Carlyle, Operations Research* (NSWC-Carderock Division)
- Support for Free Electron Laser, *Bill Colson, Physics* (ONR)
- Snow-Cover Research with Multispectral Sensors, *Richard Olsen, Physics* (NGA)
- Spectral and Polarimetric Analysis for National Signature Program, *Richard Olsen, Physics* (National Signatures Program)
- Formal Modeling of User Demand-Based Network Systems, *Kristin Giammarco, Systems Engineering* (USACERDEC)
- Share Transition Support and Repository Tool Design, *Jean Johnson, Systems Engineering*, (PEO Integrated Warfare Systems 7.0)
- Optimization and Design of High Efficiency Space-Based Multi-Junction Solar Cells Using SILVACO Virtual Wafer Fabrication Software, *Sherif Michael, Space Systems* (NRO)
- Student Rideshare Payload Model, *James Newman, Space Systems* (CAL Space Education Workforce Institute)

# Graduate School of Operational and Information Sciences

Funds received to date: \$27.2M

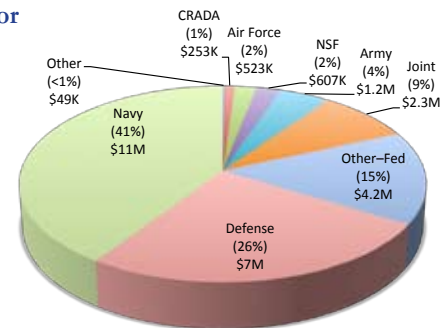
## By Department



## Projects funded in June:

- Development of Formal Method Strategy for Next Generation Security Network Server, *George Dinolt, Computer Science* (Boeing)
- Research Assistants Internships, *Cynthia Irvine, Computer Science* (DMDC)
- Information Systems Security Engineering Postgraduate Training Phase I: Pilot, *Cynthia Irvine, Computer Science* (National Security Agency)

## By Sponsor

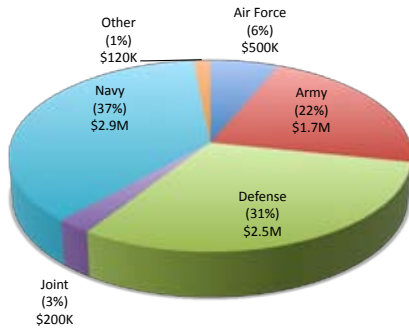


- Information Assurance Scholarship Program Support FY09, *Cynthia Irvine, Computer Science* (National Security Agency)
- Risk Assessment in Software Project, *Luqi, Computer Science* (NAWC-Weapons Division)
- Autonomic System Adaptation to Dynamic Environments: Robustness and Self-Healing, *Luqi, Computer Science* (USARO)

## Graduate School of Business and Public Policy

Funds received to date: \$7.9M

### By Sponsor

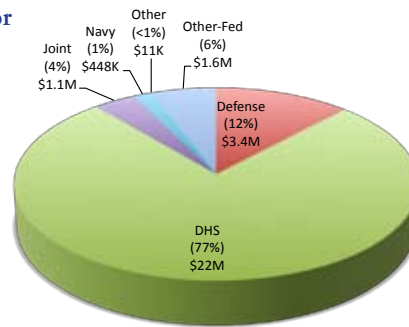


No projects funded in June

## School of International Graduate Studies (National Security Affairs only)

Funds received to date: \$28.2M

### By Sponsor



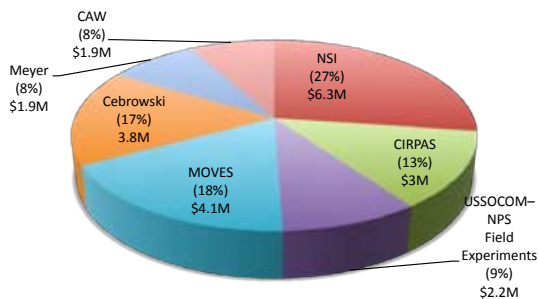
Projects funded in June

Hizbullah in the Tri-border Area and Latin America, *Anne Baylouny, National Security Affairs (OSD)*

## Research and Education Institutes and Centers

Funds received to date: \$23M

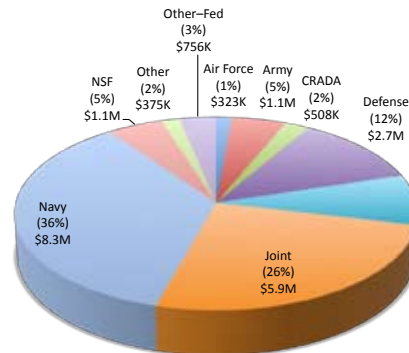
### By Department



Projects funded in June

- Aerovironment SUAV Flight Range Activities, *Bob Bluth, CIRPAS* (Aerovironment, Inc.)
- Toyon Unicorn UAV Flight Testing, *Bob Bluth, CIRPAS* (Toyon Research Corporation)
- Impacts of Aerosols in California on Radiative Forcing and Cloud Formation, *Hafidi Jonsson, CIRPAS* (NOAA)
- USN Strategic Communications Workshop, *Philip Quast, ELO* (NORTHCOM)
- JIEDDO Technical Gaming Team Initiative: Red and Blue M&S, *Ray Buettner, Field Experimentation Coop* (JIEDDO)
- GPS-Denied Geopositioning for Unmanned Aircraft Systems Using Television Signals of Opportunity, *Ray Buettner, Field Experimentation Coop* (GPS Wing)

### By Sponsor



- Operational and Maintenance Support for Field Experimentation Program for Special Operations, *Ray Buettner, Field Experimentation Coop* (USSOCOM)
- Modeling and Simulation for Customs and Border Patrol Analysis, *Arnold Buss, MOVES* (TRAC-Monterey)
- Human, Social, Cultural, and Behavioral Program, *Rudy Darken, MOVES* (ODUSD)
- Enhancements of TC Situational Awareness, *Mathias Kolsch, MOVES* (Center for Army Analysis)
- Creating a Game Based Port Protection Trainer, *Perry McDowell, MOVES* (FLETC)
- Net-centric Certification Office, *Gil Gunderson, Cebrowski* (DISA)
- Technical Cooperation Program (TTCP), *Ron Franklin, CEE* (ODUSD)

## AGREEMENTS EXECUTED IN JUNE

Cooperative Research and Development Agreements (CRADAs) executed in June 2009

- Equipment loan, SAVI Technology, *Nicholas Den, GSBPP*
- Responsive Autonomous Black Box Interrogator Test, Cubic Defense Application, *Alan Scott, Mechanical and Astronautical Engineering*

Memoranda of Understanding/Agreements (MOUs/MOAs)

- Development, Delivery, Management, and Evaluation of a

Cost Management Education Program, Assistant Secretary of the Army, *Patrick Flanagan, GSBPP*

- Participation of Navy JAG Corps Attorneys in George Washington University Law School's Master of Laws program, George Washington Law School, *CDR Mary Blankenship, USN, Director of Programs*
- LPI Radar Design Strategies & Counter – LPI Technology Conference, Associations of Old Crows, *CDR Michael Herrera, USN, Information Sciences*

## FACULTY SPOTLIGHT

This month's faculty spotlight focuses on new members of the Department of National Security Affairs.

### PROFESSOR ROBERT SPRINGBORG



We are pleased to introduce Robert Springborg, professor of National Security Affairs. His interest honed by having lived and worked in Egypt, Springborg pursued an M.A. and Ph.D. in political science from Stanford.

Specializing in Middle Eastern politics, Springborg held the MBI Al Jaber Chair in Middle East Studies at the School of Oriental and African Studies in London and directed the London Middle East Institute and the American Research Center in Egypt.

Professor Springborg's publications include *Mubarak's*

*Egypt: Fragmentation of the Political Order; Family Power and Politics in Egypt; Legislative Politics in the Arab World* (with Abdo Baaklini and Guilain Denoeux); *Globalization and the Politics of Development in the Middle East* (with Clement Henry); *Oil and Democracy in Iraq*; and several editions of *Politics in the Middle East* (with James Bill). He has contributed to various Middle Eastern journals and was the founder and editor-in-chief for *The Middle East in London*.

Springborg is updating his *Globalization and The Politics of Development in the Middle East* to address issues surrounding 9/11, with a release date in 2010. Springborg's focus at NPS is in civil-military relations.

### ASSISTANT PROFESSOR MAIAH JASKOSKI



NPS welcomes Maiah Jaskoski as assistant professor in the Department of National Security Affairs since September 2008.

Jaskoski received her Ph.D. in political science from UC Berkeley in 2008 and her B.A. from Swarthmore College. Her special interests are Latin American politics, comparative politics, state-society relations, military roles, and theories of organization.

Jaskoski is currently revising a book manuscript entitled *Mission Possible? Military Politics in Peru and Ecuador*, which

examines security missions of the Ecuadorian and Peruvian armies from the 1980s to present. She has performed extensive fieldwork in Latin America, involving archival research and in-depth interviews with officers and civilians in Ecuador, Peru, and Chile.

Jaskoski studied at the Universidad de Chile in 1997, taking classes in Latin American politics and history. She has presented papers on military politics and fieldwork methods at several professional conferences.

In addition to her position at NPS, Jaskoski is a visiting scholar at the Center for Latin American Studies at UC Berkeley.

### ASSISTANT PROFESSOR ERIC DAHL



The Department of National Security Affairs introduces the appointment of Erik Dahl as an assistant professor.

Dahl worked as a predoctoral research fellow in the International Security Program at the Belfer Center for Science and International Affairs with the Kennedy School of Government at Harvard.

Dahl's research interests include intelligence, terrorism, and international and homeland security. In his twenty-one years as an intelligence officer with the Navy, Dahl's assignments included chief of indications and warning for the headquarters of U.S. forces in Korea and Navy staff at the Pentagon.

Professor Dahl is currently working on a book entitled *Preventing Surprise Attacks: Intelligence Failure and Success from Pearl Harbor to 9/11*, which analyzes major surprise attacks, both conventional and terrorist. He is interested in cyber-security research at NPS and has published in the *Journal of Strategic Studies*, *U.S. Naval Institute Proceedings*, *Joint Force Quarterly*, *Defense Studies*, and *Naval War College Review*.

Dahl previously served as an analyst for a number of New England publications and television stations on issues of intelligence, terrorism, and national security. His education includes an M.A. in law and diplomacy and a Ph.D. in international relations, from Tufts University and M.A.s from the London School of Economics and the Naval War College.

We are pleased to welcome these faculty to NPS.

## IN HONOR OF DISTINGUISHED PROFESSOR DAVE NETZER (FACULTY MEMBER FROM 1968 TO 2009)



David W. Netzer rose to the rank of distinguished professor during his tenure at the Naval Postgraduate School. He achieved wide recognition for his research, receiving the JANAAF Combustion Sub-Committee annual award, as well as his teaching. Dave is the recipient of the Admiral J. Schieffelin Award for Excellence in Teaching, Allen Griffen Award for Excellence in Teaching,

and the Hamming Award for Interdisciplinary Education. Netzer's research interests include aerospace propulsion and power, rocket motor plume characteristics, liquid and solid fuel ramjets, and pulse detonation engines.

Dave Netzer joined NPS in April 1968. He attended Virginia Polytechnic Institute where he majored in mechanical engineering receiving his bachelor of science. Graduate study followed at Purdue University where he received the degree of master of science in June 1962. The year following graduation, he was employed by Aerojet General Corporation as a development engineer on the Titan III Transtage Engine Program. He was responsible for the design, development, and fabrication of the ablative combustion chamber and the radiation-cooled nozzle. He enrolled as a graduate student at Purdue in 1964 and received his Ph.D. in June 1968. His dissertation focused on the combustion instability in biphasic rockets.

In his years at NPS, Dave mentored many students, many of which remain in contact with Dave. Dave's list of authored and coauthored publications is extensive. He coedited *Tactical Mission Propulsion*, published by the AIAA, a compendium of the latest advances in tactical mission propulsion.

Dave's achievements as a researcher and teacher are exemplary, and it is no surprise that his accomplishments as the associate provost and dean of research and the director of the NPS-USSOCOM Field Experimentation Program followed suit. Dave served as dean for seven years leading both growth in research dollars and considerable change as we weathered BRAC and the establishment of three research and education institutes. Dave established the field experimentation program at NPS and proved that NPS involvement could assist the operational community and still serve educational purposes. Dave excelled in this area. It was the culmination of year's of experience and leadership.

If there is a single word to describe Dave Netzer, it is "integrity." In addition to being one of the best in whatever he chose to pursue, Dave always maintained integrity in his actions. We will always be thankful for the opportunity to have "experienced Dave."



*Dave and his wife, Joan*

### DISTINGUISHED CIVILIAN SERVICE

The Distinguished Civilian Service Award was presented to David Netzer at a ceremony on 8 July with the following citation:

For distinguished service as a professor at the Naval Postgraduate School since April 1968 and the dean of research, program manager, and investigator for NPS's premier project Tactical Network Topology from July 1996 to February 2009. During his 41-year career, Dr. Netzer earned an international reputation as an energetic researcher, a splendid teacher, and an innovative thinker. His efforts contributed to the NPS mission of enhancing the combat effectiveness of our nation. Working with an entrepreneurial spirit and sheer determination, he developed the Combustion Research Laboratory, now considered a national asset for conducting rocket propulsion and exhaust plume research. His outstanding leadership was apparent on the world stage where his peers and colleagues recognized his stature and stalwart contributions. He spearheaded the creation of the Wayne Meyer Institute of Systems Engineering, the Cebrowski Institute for Information, Innovation, and Superiority, and the Modeling, Virtual Environments, and Simulation Institute. These institutes focus on interdisciplinary research projects that help

the Navy and Marine Corps identify and meet future military challenges. Dr. Netzer's undying loyalty and inspiring dedication reflected great credit upon himself and the NPS, and were in keeping with the highest traditions of the Department of the Navy.



*Dave Netzer receives the Distinguished Civilian Service Award from NPS president Dan Oliver.*



Excerpt from letter to Dave Netzer from ADM Eric Olson, USN:  
 “Please accept our appreciation for your direct contributions to the success of the United States Special Operations Command (USSOCOM)—Naval Postgraduate School (NPS) Field Experimentation Cooperative. As the Naval Postgraduate School Director of the USSOCOM-NPS Field Experimentation Cooperative since its inception in 2003, you have guided its growth and commitment with quiet, strong leadership and academic standards. Your demonstrated respect for your USSOCOM partners and other support staff has made the experiences memorable. In the six years of your leadership and direction many technologies have been advanced and are now saving lives. For those saved lives, USSOCOM has you to thank. Please accept this flag in recognition of your selfless and tireless efforts. This flag was flown at the United States Special Operations Command.”

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Knox Milsaps, Chairman, Department of Mechanical and Astronautical Engineering, NPS, reflecting on Dave Netzer:  
 “Dave Netzer was first and foremost an excellent teacher, researcher, and professional colleague—a model NPS Professor. While most people at NPS know Dave from his positions as dean of research and director of the NPS field experiments, the mechanical and astronautical engineering faculty remember Dave as a professor, a super colleague, and one of the most magnanimous people we have ever known.... Along with being well respected in his technical area, he was very well liked by people all over the country and a symbol of NPS in the national spotlight. ...Dave did not keep to himself, but worked with faculty and students across NPS, and with research groups in the Government, industry, and other universities. He started and lead a research consortium with participation from Stanford, USC, and UCSD. Dave left an enduring mark on our department....”

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Ray Buettner, Director, USSOCOM–NPS Field Experimentation Program, at the award ceremony:  
 “We included the “SIGEAGLE” aircraft in our USSOCOM presentation because it embodies many of the elements that have typified Dave’s service to our Nation. Dave’s intense interest in aviation, his understanding of the importance of the network to the warfighter, his support of collaboration between NPS, other government entities, universities and industry, his belief in quality research as the key to quality education and his focus on the NPS mission.”

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Plaudits for Dave from retired provost Dick Elster:  
 “My comments will all be flattering. I don’t dare say anything bad about a guy who has his own air force and Special Operations forces!

I want to thank the school’s leadership for shepherding Dave’s award through the bureaucracy in D.C. [Dave], you are fortunate to be associated with this wonderful school. Lots of large egos here; but somehow almost everyone, almost all of the time, focuses on what is best for the nation and for NPS.

I am reminded that NPS received the highest military value score of the schools evaluated in the last BRAC. How did NPS score so well? Because of the dedication and excellence of our faculty and staff. Dave Netzer is the iconic example of a NPS faculty member:

- bright and well educated
- a natural leader
- one who gives energy to others
- hard working
- he delivers

Dave is the perfect example of a professor who subordinated his own interests to the greater good of NPS and the nation. As a result of those attributes, Dave has had enormous impact on NPS and the nation. Dave’s initial support for field experimentation has grown into efforts of enormous importance to the nation.

I do recall that in the beginning some colleagues sniffed that Dave was just running a consumer-products testing lab and that field experimentation was not very academic. It required a professor of Dave’s stature to get the experiments going and turned into a vibrant, vital program.

Students, warfare commands, corporations and other faculty have come to see the value of what Dave has built. Dave’s efforts have directly and positively impacted the combat effectiveness of U.S. forces, of that there is zero doubt. I cannot think of a more important contribution.

Achievements like Dave’s require the support of family members. NPS owes thanks to Joan Netzer for sharing Dave with us.”