

CALL SIGNS



Volume 3, Issue 1
Spring, 2012

*A Publication of the United States Naval
Aerospace Experimental Psychology Society*

Contents

- 1 MESSAGE FROM THE PRESIDENT
- 2 STATE OF THE AEP COMMUNITY
- 5 ROLE OF PROGRAM MANAGER IN DoD
- 7 PREPARING FOR A CAREER IN PM
- 9 PROFILES IN PM: OASD(R&E)
- 11 PROFILES IN PM: PMA-205
- 13 PROFILES IN PM: ONR
- 14 SCIENTIFIC ADVISORY TEAMS
- 17 NPS RECOGNIZES CAPT SCHMORROW
- 18 BRAVO ZULU
- 19 IN MEMORIAM
- 21 CALENDAR

About the USN ★ AEP Society

As military transformation continues to affect today's and tomorrow's Department of Defense and the Navy Medical Service Corps, the need to promote the role of Aerospace Experimental Psychologists as leaders and innovators in aerospace psychology continues.

Naval Aerospace Experimental Psychologists offer a unique combination of education, knowledge, skills, and experiences to address current and emerging challenges facing the Navy, joint, and coalition environments.

The U.S. Naval Aerospace Experimental Psychology Society (USNAEPS) is an organization intent on:

- Integrating science and practice to advance the operational effectiveness and safety of Naval aviation fleet operators, maintainers, and programs
- Fostering the professional development of its members and enhancing the practice of Aerospace Experimental Psychology in the Navy
- Strengthening professional relationships within the community



AEP Community Specialty Leader
CAPT Dylan Schmorrow
Office of the Secretary of Defense
dylan.schmorrow@osd.mil

USNAEPS Executive Committee



President
CDR Joseph Cohn
ONR
joseph.cohn@navy.mil



Vice President
LCDR Henry Phillips
NAVAIR 4.6
henry.phillips@navy.mil



Secretary
LT Brian Johnson
NAWC-AD
brian.r.johnson@navy.mil



Treasurer
LCDR Brent Olde
PMA-205
brent.olde@navy.mil



Membership Outreach
LT Rolanda Findlay
NAMI
rolanda.findlay@med.navy.mil



Historian
LCDR Jeff Grubb
NAWC-TSD
jefferson.grubb@navy.mil



Newsletter Editor
LCDR Tatana Olson
tatana.olson@navy.mil



Co-Editor
LT Brennan Cox
NAMI
brennan.cox@med.navy.mil



Co-Editor
LT Stephen Eggan
NAMRU-Dayton
stephen.eggan@wpafb.af.mil

Message From The President

CDR JOSEPH COHN, USNAEPS PRESIDENT
HUMAN & BIOENGINEERED SYSTEMS DIVISION, OFFICE OF NAVAL RESEARCH

Greetings and welcome to the sixth issue of the United States Naval Aerospace Experimental Psychology Society's *Newsletter*, *Call Signs*. This issue focuses on a very unique niche occupied by AEPs, that of Science and Technology Program Manager (S&T PM). Almost a quarter of our community currently serves in a PM-related role, and many more of our current and retired members have done so in the past. Like many of my PM colleagues, I can share many stories of folks asking me how I can enjoy performing what must surely be a boring job – pushing paper, managing people, and letting my research and analysis skills decay by the minute. The truth, however, is far different. As any one of us PMs will readily tell you, S&T Program Management offers the unique opportunity to 1) bridge the gap between emerging and innovative science and technology and Department of the Navy requirements; 2) hone our leadership skills; and 3) help chart a way forward for future Naval capabilities. Along the way, many of us have had the chance to foster entirely new research areas, carve out communities of interest in internationally recognized Professional Organizations, and touch the fruits of our labor in the Fleet and Force. This last circumstance is surely the high point of any S&T PM's career and is the top reason I left academia to become an AEP.

In order to help shed some light on this notable AEP career path, this issue is devoted to highlighting the stories of some of our AEP S&T PMs. In particular, this issue will present a background on the role of the PM in the DoD, some of the necessary steps in preparing for a PM-related career as an AEP, and will profile several PM-

related positions currently held by AEPs. A crucial take away from these stories is that there is no single path to becoming a S&T PM. At the same time, there are certain invariants that cut across each of these stories. Obtaining the necessary Defense Acquisition University courses and certifications is a start. Being open to new and challenging experiences that push you out of your comfort zone is another. Creating a flexible long-term career plan is a third. As you read this issue you will certainly find others **and I challenge you to begin developing your own "story"** now, should you be willing to take the plunge into S&T Program Management career path.

On a different note, this is my last message to you, our readers, as Society President. We recently inducted a new USNAEPS Executive Committee and I would like to invite you to join me in welcoming them aboard and wishing them the very best as they continue to advance our Society's goals. The new Executive Committee members are:

- President: LCDR Chris Foster
- Vice President: LCDR Tatana Olson
- Treasurer: LCDR Will Wells
- Secretary: LT David Combs
- Membership Outreach: LT Lee Sciarini
- Newsletter Editor: LT Stephen Eggan
- Newsletter Co-Editors: LT Brennan Cox & LT David Combs
- Historian: LCDR Jeff Grubb

It has been an honor and a privilege to serve you as your Society's President and I look forward to continuing to serve the Society as an active member.



2012 State of the AEP Community

BY CAPT DYLAN SCHMORROW, OSD

As Specialty Leader (SL), I once again have the honor of reporting on the state of the Aerospace Experimental Psychology (AEP) community. I am happy to report that our community is well-positioned to maintain its strategic relevance, fully manned, and prepared to meet the challenges of the coming years, no small part of which will be the development of expertise in Program Management, the focus of this issue of Call Signs.

For example, systems acquisition is a critically important functional area for AEPs. In our roles as human systems integration experts, we serve as the conduit that helps integrate fleet requirements with intelligent systems engineering work, yielding crew interfaces, controls, displays, intelligent training tools, systems, and curricula, and information management systems that help warfighters manage the information they need when they need it. All these tools and products help our warfighters maximize their performance in the field and return home safely. The leadership roles AEPs fulfill in support of systems acquisition are indeed critical.

Similarly, AEP work in Science and Technology Program Management helps ensure warfighter effectiveness and survivability by ensuring that the tools and technology our sailors, Marines, soldiers, and airmen need today, as well as the ones they will need tomorrow, are available and effective. AEPs historically have pushed the boundaries of what is considered possible for warfighter information management and support. For instance, AEPs created the field of Augmented Cognition and remain embedded in Live, Virtual, and Constructive training efforts at the Office of Naval Research (ONR). Program Management-related roles occupied by AEPs include the following:

- CAPT Russ Shilling serves as the TeleHealth, Training, and Technology Program Manager at the Defense Advanced Research Projects Agency (DARPA).
- CAPT Sean Biggerstaff is dual-hatted as the Program Director for Medical Modeling and Simulation and Military Operational Medicine at the Office of the Assistant Secretary of Defense for Health Affairs (OSD HA).
- CDR Joseph Cohn is running a multi-year Enabling Capability through the ONR Future Naval Capabilities program for ONR's Unmanned Aerial Systems Interface, Selection, and Training Technologies (UASISTT) project.



- LCDR Brent Olde serves as an Assistant Program Manager (PM) for the Naval Aviation Training Systems Program Office (PMA-205). He coordinates the Science and Technology efforts for the Command and manages the transition of innovative training systems into Fleet use.
- I serve in the Office of the Assistant Secretary of Defense (Research and Engineering) as the Deputy Director for Human Performance, Training, and BioSystems with purview over the defense technology areas of human performance, medical, man-machine systems, training, civil engineering, environmental quality, and chemical and biological defense. My responsibilities include providing technical leadership, management oversight, policy guidance, and coordination of all Human Performance, Training, and BioSystems related research and engineering programs in the DoD. I also serve as PM for the Human Social Cultural Behavior (HSCB) Modeling Program.
- CAPT David Gleisner served as Vice Commander of the Naval Air Warfare Center – Aircraft Division (NAWC-AD), where he had supervisory authority over all ACAT I naval aviation programs until his retirement on 1 Jun 2012.

One of many things we all have in common is that we are Acquisition Professionals in the Naval Acquisition Corps who strive to ensure that our areas of responsibility are focused, relevant, and eminently capable of satisfying current and anticipated defense needs. We also facilitate coordination across the DoD Services, the Defense Advanced Research Projects Agency, the National Science Foundation, the National Institutes of Health, the Department of Homeland Security, and other federal agencies to directly include government, academic, and industry researchers in advancing these efforts.

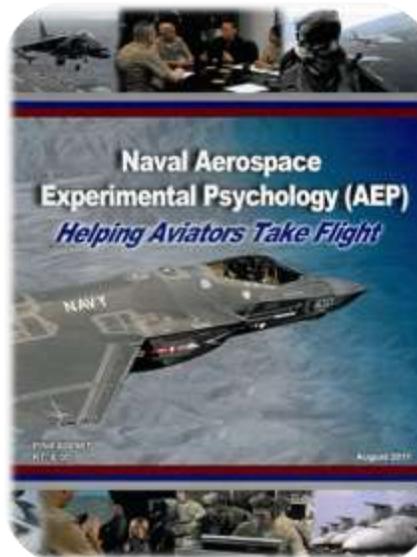
These assignments are just a snapshot of the AEP community's PM-related strategic positioning at present. AEPs have a rich and innovative history of programmatic leadership, support, and involvement of which we can all be very proud. These leadership opportunities and accomplishments are only possible due to the right seed corn being sown at the right time. I hope everyone in our AEP community, regardless of current billet status, is pursuing Defense Acquisition Professional training now...someday soon other AEPs will be serving in the positions listed above and one needs to be ready BEFORE one's assignment to meet these challenges.

I am happy to report that as of this writing, our community has no gapped billets thanks to the diligent recruiting and screening efforts of several key community members, chief among them our Assistant SL, LCDR Hank Phillips. During our tenure, the AEP community has been fortunate enough to commission nine strong accessions, four more than we were initially offered during this period. Thankfully, we pressed for these additional slots because, due to our long training pipeline and planned retirements, we've needed the slots to keep our billets filled. We have been able to secure these extra accessions, which are the only reason we have been able to fill all the community's billets, due to aggressive recruiting efforts and prospect case management. We cannot simply rely on medical officer recruiters to do this on our behalf, as they are responsible for maintaining awareness of all medical officer programs, including all 31 MSC specialties. If we want to maintain access to top prospects and have them ready to take the oath of office when accession slots become available, we have to maintain awareness of the recruitment and accession process every step of the way. If the SLs who will follow

my tenure only remember one thing from my many lectures, I hope it is that the SL must constantly be striving for more accessions. In the past when we have not, the community has ended up with not enough officers to assign to our billets...and this has led to our losing a number of important billets.

This is particularly important now, as we are in the process of attempting to stand up at least two additional billets over the next two years, which will necessitate continued aggressive recruiting among our professional networks and at key conferences if our community is to continue to bring in officers at the pace required to keep its billets filled.

At the MSC Specialty Leaders' Symposium in February of this year, I was asked by RDML Valentin to brief



The AEP video was featured as a community best practice at the MSC Specialty Leaders' Symposium

our community's best practices, which included the video we released in 2011, the AEP conference booths, the plan of action and milestones we maintain to keep our community positioned for continued recruiting success, growth, and strategic relevance, and our community management practices, including the historical picture of our community that we maintain, and the daisy chain models we use to track and project future moves. Thank you to everyone who has helped to develop these tools and practices. I enjoyed sharing them with the broad MSC family!

Those daisy chain models have never been more important than they are today given the fiscal constraints under which N1 is operating, as well as the sheer number of officers slated to move during this period. The questions of possible extensions and extremely limited early moves make it necessary to plot out moves for FYs 13 and 14 as a single model, necessitating the coordination of up to 22 reassignments out of a community of 32 officers during this period. At the AEP meeting in Alexandria, VA from 7-9 May, LCDR Phillips and I displayed a projected slate of moves for the coming years, with the goal of challenging everyone to not just think about where "they" want to go next, but also think about how to move the entire possible slate of 22 people and billets.

These annual AEP meetings serve many important functions, such as providing opportunities for community mentorship at a venue ideally suited for this purpose. There is no other meeting at which so many senior and junior AEPs have the opportunity to meet face-to-face

and share lessons about career management, officership, and development as community leaders. I was also **extremely impressed by our officers' performance** at the AEP panel we presented at the Aerospace Medical Association meeting the following week, which was co-chaired by myself and LCDR Foster, and featured briefs from CDR Cohn, LCDR Grubb, LCDR Phillips, LCDR Walker, LT Combs, LT Cox, and LT Findlay.

I would like to say a few words about LT Rolanda Findlay, who has been selected for a 240-day deployment in support of Navy Mobile Care Team 6 in Afghanistan, where she will be conducting and supervising research and data collection and management work on warfighter mental health, education, and consultation. As this goes to press, she is at Fort Jackson for pre-deployment training. We salute her as she prepares for this critical assignment and will keep her in our thoughts over the coming months.

We currently have one SNAEP in training, LT David Rozovski, who just completed Aviation Preflight Indocination (API). We knew to expect great things from this young man early on, but LT Rozovski is surpassing even our lofty expectations, and as I understand it, has constructed a custom-made flight simulator for Naval Aviation Schools Command. He is expected to be winged as AEP #147 in October 2012. FY12 saw two similarly impressive AEPs earn their wings in February, LTs Kirsten Carlson and David Combs. LT Carlson has reported to NAWC-AD in Pax River, while LT Combs is assigned to NRL. Both have hit the ground running.

I would also be remiss if I failed to mention another recent sea change for our community: On 1 Jun 2012, the AEP community said goodbye to a pivotal member, CAPT David Gleisner, AEP #77. CAPT Gleisner retired as the most senior Captain in the Medical Service Corps, and Vice Commander of NAWC-AD in Patuxent River, a position he held since June 2009. His distinguished career has also included assignments as Director of Operations, Deputy Department Head, and Director for the NAWC-AD Human Systems Department, as well as assignments to the Defense Manpower Data Center in Monterey, CA, Chief of Naval Air Training in Corpus Christi, TX, and the Naval Air Development Center in Warminster, PA. CAPT Gleisner served as AEP SL from 2000-2003. He set an outstanding example for all of us to follow, and our community will not be the same without him. We expect to see you at all future USNAEPS events, sir!

I would also like to recognize the newly elected members of the USNAEPS Editorial Board and thank the outgoing members for their outstanding service and achievements in making USNAEPS such an early success. This Society is viable, strong, and widely recognized due to their diligence, innovation, and commitment to excellence.

In conclusion, let me say what an honor it is to lead such an outstanding officer community. The great things you all continue to do make my job very easy. I urge you to keep up the great work, and I will do my best to keep up with you!



CAPT David Gleisner, AEP #77, reviews a presentation on AEP history prior to his retirement as the most senior CAPT in the MSC.

The Role of the Program Manager in the DoD

BY CAPT SEAN BIGGERSTAFF, OASD & CAPT (RET) MICHAEL LILIENTHAL, AEP #71

The use of the term Program Manager (PM) is often misunderstood or misinterpreted within the AEP community. The formal definition of a PM comes from the DoD Directives (DoDD) relating to the acquisition of major weapons systems – the DoD 5000 Series. The PM is given requirements from a valid requirements office, such as Fleet Forces Command, and resources by a resource sponsor (e.g., an OPNAV office) to establish a formal acquisition program. The PM is then designated as the individual with the responsibility and authority to accomplish program objectives for product development, production, and sustainment to meet the user's operational needs, and is accountable for the cost, schedule, and performance of a program. They report to the Milestone Decision Authority (MDA) numerous times during the development and fielding of a weapons system for approval to proceed to the next phase of systems acquisition. PMs reside within Systems Commands, such as NAVAIR, and are usually accountable to multiple bosses. For example, the PM for an Unmanned System would be held accountable to their NAVAIR leadership, as well as the Program Executive Office (PEO) for those types of platforms. They are also beholden to the requirements and resource sponsors. The PM is often faced with the need to balance priorities and to work in the trade space of cost, schedule, and performance. It has been our experience in the acquisition world that cost and schedule tend to take a higher priority at the expense of performance.

At NAVAIR, PMs use an Integrated Product Team (IPT) concept to plan and execute their program. The PM has to take into consideration total life-cycle systems management and cost, and is supposed to balance total system performance (hardware, software, and human), operational effectiveness and suitability, survivability, safety, and affordability. Again, our experience has been that in many cases PMs have to stay more focused on the

near-term cost, schedule, and performance issues rather than the longer-term life-cycle perspective. This is due, in part, to the way in which budgetary planning is carried out and the need to meet current and near-term operational needs. This focus often puts Human Systems Integration (HSI) concerns on the back burner, since many of the benefits of good HSI are often not seen until later stages of the acquisition process – once the system is fielded or through life-cycle cost savings.



THE ROLE OF AEPs AS PMs

Although a number of AEPs have held positions within formal Acquisition Program Offices, there has never been an AEP who served as the PM for a major acquisition program or program office. Several AEPs have been able to serve as assistant PMs for training programs and other program offices, and a handful of AEPs have succeeded in getting their level III PM certification. However, we have not, to date, been able to assume the PM leadership role in a Program Office within NAVAIR. Most of the AEP billets that directly support acquisition programs are in the Engineering and Systems Engineering program within the Naval Air Warfare Center Aircraft Division (NAWC-AD) at Pax River, or in Orlando. AEPs filling those billets serve on the IPTs in support of the PM. In addition, some of our billets are focused on research efforts that support either current Programs of Record, such as PMA 202 Aircrew Survivability Programs, or future major acquisition programs (e.g., the UCLASS Program and JSF).

AEPs AS SCIENCE & TECHNOLOGY (S&T) AND RESEARCH & DEVELOPMENT (R&D) PMs

AEPs are, at their core, researchers. We begin at the bench level, applying the skills we learned in graduate school against relevant militarily problems. Ultimately,

many of us end up in more senior positions in which we guide, direct, and manage research portfolios at organizations like the Office of Naval Research (ONR), the Defense Advanced Research Projects Agency (DARPA), and at the Office of the Secretary of Defense (Assistant Secretary of Defense Acquisition, Training, and Logistics (AT&L) and Health Affairs (HA)). These positions are responsible for programs, and so we are often called “Program Managers.” However, they are research programs and not acquisition programs. Our work may in fact support a major acquisition program, such as the Defense Common Ground Station (DCGS), the UCLASS program, or the Electronic Health Record Program, but we are not under the same constraints as an Acquisition PM. For example, each research organization will have its own rules for what constitutes a requirement, such as program reviews, but there are no Milestone Decision responsibilities and there are fewer constraints on cost, schedule, and performance. S&T PMs manage dollars that range from basic research (called 6.1 program dollars) to advanced technology development/prototyping (6.3 program dollars). R&D PMs will also control Demonstration and Validation dollars (6.4) through Operational System Development dollars (6.7). For more advanced development work, most organizations have a requirement for transition agreements. In addition, the requirements for holding these positions are position specific. For example, the ONR billets often require level III S&T PM certifications, and the PMA 205

and OSD (HA) billet requires level II or III Acquisition PM certifications.

FUTURE ROLES OF AEPs

We see two real paths to career development within the community. One path is that of executive leadership. As RDML Valentin said at the recent Military Health System conference, executive leadership does not just include becoming an OIC, XO, or CO at a medical command, but also being assigned leadership roles in other commands (e.g., NAWC – AD) or within BUMED. The other path is to assume a role as a leader in the R&D community. The positions at ONR, DARPA, and within the Office of the Secretary of Defense are examples of that form of leadership. Many of these billets started as out-fill billets, which eventually were recoded as AEP billets. This has been, historically, the most common path for members of the community, and this trend will likely continue. There are a number of new R&D leadership opportunities on the horizon for AEPs. The establishment of a centralized Medical R&D group within the new Defense Health Agency will require Medical and Medical Service Corps leaders. In addition, the recent efforts within the U.S. Army Medical Research and Materiel Command to bring in other service representatives and **the Air Force’s movement to do more aeromedical related R&D** will provide potential tri-Service positions for our community.



Preparing for a Career in Program Management

BY CDR JAMES PATREY, NAWC-AD & LCDR BRENT OLDE, PMA-205

There's a commercial from the not too distant past (considered one of the best Super Bowl commercials ever) that shows a bunch of kids answering questions about what they want to be when they grow up. Rather than answering with the traditional "fireman," "astronaut," "baseball player," etc., they state what most of us end up doing for a living, including one bright-eyed, determined young man who declares, "I want to climb my way up to middle management"¹. If you're thinking that you want to be a program manager at some point in your career, then you have something in common with that young man!

In truth, a job in program management, admittedly a type of middle management job that is often dreaded as is jokingly insinuated by that commercial, is in fact, a bit more interesting than that (the merits of which are discussed elsewhere in this newsletter). It is likely that you will be afforded the opportunity to directly support or serve in a program management job sometime in your career. Though few of us are inherently inclined to pursue such a career, as our pursuit of advanced degrees has pushed us in different directions, there are distinct and enviable advantages to being "on top of the money."

If this hasn't already happened to you, you will no doubt have the chance to discover whether program management is an area of interest to you early in your career, as you will almost certainly be called on to support a **program manager**. If you've ever worked for someone who was running a project, whether that project was funded by the National Institutes of Health, the National Science Foundation, the Scottish Rite Institute, the United Way, etc., you have worked in the realm of program management. If you have had such an experience, and many of us have while we were still in graduate school and possibly even during undergraduate education, you know that the person for whom you worked had a budget for staff, equipment, travel, and other expenses, a schedule for completing events, and specific goals for the work to be performed. Let's take a closer look at those responsibilities again – budget, schedule, goals, or said in a different way – Cost, Schedule, Performance – the cardinal hallmarks of program management. So, you may not have recognized it, but the odds are good that you have already been introduced to the world of program management.



Attention to the "iron triangle" is critical to successful program management.

A solid first step in learning about program management is to work on a project and get a basic introduction to its fundamental characteristics. Pay attention to what your boss is paying attention to (always a good idea!) and learn about what is important to him or her on a project. We are generally trained so well as scientists that we can experience difficulty appreciating anything other than the intrinsic value of a study and fail to consider the budget constraints and opportunities, the deadlines for conferences and grant submissions, the time requirements for moving funds from an accounting line to the people and equipment that a project needs, and the pressures for practically meaningful results from a research project. If you haven't done so already, participate in a project and pay close attention to the 'project management' priorities that your boss is focused on.

If you've already done that (and didn't hate it!), then it may be time to try your hand as a project manager. Typically, that means you are delegated to run part of a project, recruited to be a co-project manager, or get your own project funded to execute and manage. This is typically a smooth transition for most AEPs as our expertise lends itself well to supporting and running scientific projects of this type. Such experiences serve as a good intro-

¹ If you're interested, you can find this commercial from Monster.com on YouTube

duction to the fundamentals of program management.

However, running a Science and Technology (S&T) project is only a segment of the knowledge and expertise needed to be an effective program manager. While the principles for running a S&T project are quite similar to those of a program, there are nuances to program management that often generate qualitative differences between the two. In order to begin to understand those, it is essential to participate in courses through the Defense Acquisition University, most notably those leading to certifications in the Program Management tracks. The basic Acquisition courses (e.g., ACQ 101, ACQ 201) provide a solid foundation to build a general understanding of the life cycle of a program, where each piece fits within the cycle, and what each piece contributes. Additionally, the fundamental Systems Engineering courses (e.g., SYS 101, SYS 201) are an invaluable way of learning about the overall process in which acquisition is efficiently executed. Likewise, courses in Test and Evaluation, Contracting, Logistics, Financial Management, and other relevant areas can be quite worthwhile, as many of these domains will be highly relevant to the programs you are working on.

The list of requirements for obtaining DAU Certificates can be found at <http://www.dau.mil/Training> by clicking on the “Certifications and Standards” link. There are three levels of certification. Each requires specific training, education, and experience. Most of the training can be accomplished online, but Level II and III certificates usually require a “residence” course. These are courses taken at a DAU facility and can last from only a few days to over a month (for example, the 352B Program Management course takes five weeks to complete). Anyone can sign up for courses (with your supervisor’s approval), but to obtain the required “experience,” one must be in an acquisition coded billet or qualify for equivalent experience (the latter requires more paperwork and is not guaranteed), so plan accordingly. If you happen to be in an acquisition coded billet, you will have priority when applying for any resident training required for your billet. Signing up for courses can be done by clicking on the Navy link located in the “Apply for a Course” section of the main DAU webpage: <http://www.dau.mil>. When you complete all the requirements for a certificate, you must submit an online request for the certificate; once approved, you will



Defense Acquisition University provides requisite training for positions in program management.

receive the certificate (via email) and automatically receive the corresponding AQD.

You may, at some point, have an opportunity to participate in acquisition program Integrated Project Teams (IPTs) and/or associated key meetings. This is really the pinnacle of preparation for a program management position. Seeing up close and personal the challenges of managing government and contractor teams, being embedded within the cost/schedule/performance pressures of a formal program of record, having responsibilities for which there are major consequences for failure within a platform, and getting direct tasking from APMs/PMs is invaluable experience.

Along the way, seek mentors (foot stomp here!) – many of your civilian and military shipmates have significant experience in acquisition, project management, testing, etc. While there is nothing like direct experience to prepare you, it is certainly preferable to learn from the lumps someone else has taken than having to get them yourself! It is also worth mentioning that leadership opportunities of any type are good preparation for program management. Ultimately, good program management is developing a plan, persuading teams to follow that plan, and keeping a disparate group focused on mission goals.

Any general leadership opportunities that give you practice with, and experience in, such skills will pay off when it comes to managing programs.

In our community, billets for which you can support projects, such as NMRU-Dayton, NAWC-TSD, NRL, and NAWC-AD, are great opportunities to prepare yourself for program management. Similarly, there are opportunities at NPS, USAFA, and NHRC to support research projects. You can also learn more about the tasks and responsibilities associated with project management by directly supporting acquisition programs of record at NAWCTSD and NAWCAD.

Ultimately, there is plenty you can do to prepare yourself for a program management position. Pursue the courses and certifications that will provide you with a solid foundation upon which to build, engage in projects which will provide experience in the fundamentals of management, support programs of record to learn the acquisition process, seek mentors who can provide sage advice, and, of course, learn to be a leader (a skill that will serve you well no matter the job!). Do this and you too

Profiles in Program Management: OASD (R&E)

BY CAPT DYLAN SCHMORROW, OSD

I work in the Office of the Assistant Secretary of Defense for Research and Engineering (ASD(R&E)). The ASD(R&E) is the Chief Technology Officer (CTO) for the DoD. The ASD(R&E) provides thought leadership for near-, mid- and far-term research and engineering efforts to develop technical capabilities to support goals and priorities of the Secretary of Defense, and serves as the principal staff advisor for research and engineering matters to the Under Secretary of Defense for Acquisition, Technology, and Logistics (USD(AT&L)). Additionally, the ASD(R&E) has oversight of both the staff responsible for the various scientific and technical areas within his broad portfolio and of the entire DoD Research and Engineering enterprise as a whole.

ASD(R&E) executes its mission by operating in a culture of innovation, speed, and agility to rapidly develop breakthrough technologies, shape strategic direction to prepare for an uncertain future, and strengthen the foundation of DoD's acquisition programs through scientific and engineering support. ASD(R&E) operates in collaboration and cooperation with industry, academia, and government S&T organizations - the "Research Triumvirate" - to discover, develop, and deploy new science and technology concepts to support national security interests.

Within the ASD(R&E), four offices provide leadership for the Department. These offices include: Developmental Test and Evaluation (DT&E), Rapid Fielding (RF), Research (RD), and Systems Engineering (SE). In addition, advisory and decision-making bodies within the ASD(R&E) include an Executive Committee (EXCOM), an associated Principals Committee, and appropriate advisory groups, made up of leadership from the Department's largest S&T organizations, policy, and other related bodies.

This two-pronged approach is intended to provide efficiency and agility to the development and transition of science and engineering to warfighter capabilities. The DoD's Research and Engineering enterprise is structured around four imperatives:

- Accelerate the delivery of technical capabilities to win the current fight
- Prepare for an uncertain future
- Reduce the cost, acquisition time, and risk of major defense acquisition programs
- Develop world-class science, technology, engineering, and math capabilities for the DoD and the Nation.

I currently have three distinct "jobs" in my current assignment in ASD(R&E) within the Research Directorate. First, I am the Deputy Director of the Human Performance, Training, and BioSystems (HPT&B) Directorate, where I work closely with the Director in the management of the Directorate. Second, I am the Associate Director for Human Systems, where I lead the oversight of human-machine interface and training S&T, as well as S&T initiatives across a wide range of other personnel and human performance related areas. Third, I am the Program Manager of the Human Social, Culture, and Behavior (HSCB) Modeling Program, where I directly manage applied research, advanced technology development, and research development funding (approximately \$30+ million a year). Additionally, I am periodically asked to serve as the Military Assistant to the ASD(R&E), where I directly support the ASD(R&E) in all aspects of the enterprise.

The ASD(R&E) enterprise is structured around four imperatives:

I. Accelerate the delivery of technical capabilities to win the current fight

II. Prepare for an uncertain future

III. Reduce the cost, acquisition time, and risk of major defense acquisition programs

IV. Develop world class STEP capabilities for the DoD and the Nation

The HPT&B Directorate has nearly a dozen full-time government employees, detailed government employees, government employees in training status, military personnel, and contractor support. During my tenure in this assignment, I was fortunate to be the Acting Director for nearly a year (This was because the Senior Executive Service (SES) Director retired, and the recruitment and selection process took nearly a year.). This was especially well-timed for me because I was a Captain-Select at the time, and serving in this position enabled me to be “frocked” to O-6. The ASD(R&E) felt this was important since the Director’s position was technically a flag rank-equivalent assignment. This necessitated the modification of the billet title from “Assistant” to “Deputy” to justify the frocking. Upon the selection of the new SES Director, I now serve in this Deputy role.

As the Deputy Director for the HPT&B Directorate, I am responsible for promoting and ensuring the safe and effective performance of active duty military personnel by providing the technical leadership, management oversight, policy guidance, and coordination of nearly \$4B+ of Research and Engineering programs in the Military Services and Defense Agencies related to all areas of human systems, biomedical, chemical/biological defense, environmental quality, and civil engineering. In particular, this position ensures that DoD S&T in these areas are focused, quality efforts capable of satisfying defense needs in the areas of human factors engineering, personnel selection and training, operational support, and human performance.

Additionally, the billet I occupy represents the Office of the Assistant Secretary of Defense for Research and Engineering and USD(AT&L) on OSD General Officer/Flag Officer/SES policy and working level groups and other government (e.g., White House Office of Science and Technology Policy’s National Science and Technology Council) working groups. Additionally, the incumbent serves as the U.S. representative on international research groups such as the NATO Research and Technology Organization (RTO), which promotes and conducts cooperative scientific research and exchange of technical information amongst 28 NATO nations and 38 NATO partners, and the Technical Cooperation Program (TTCP), which is an international organization that collaborates in defense scientific and technical information exchange, program harmonization, and alignment, and shared research activities for the five-nation alliance of Great Britain, Australia, New Zealand, Canada, and the United States.

As the Deputy Director for HPT&B, and the OSD Human Systems Staff Specialist, I am assigned to O-6

working groups across the Department, Services, and components. Additionally, I oversee a broad DoD portfolio of Human Performance, Training, and BioSystems-related research and engineering and am supported by rotational detailed government personnel from the Air Force and Army on training assignments; hence, in addition to the ability to manage a cadre of personnel from multiple services, particular depth in Naval RDT&E related to operational military support is necessary for success in this assignment. Further, the Systems Planning, Research, Development & Engineering – Science & Technology Management (SPRDE-STM) Level 3 DAWIA certification is required to ensure the officer occupying this position has full understanding and demonstrated proficiency in the management of naval acquisition policy, regulations, and best practices. These qualifications are critical for the assurance of informed oversight of S&T programs.

My advice to anyone interested in serving in my billet in the future is simple. You must actively seek out opportunities at all rank levels in one’s career to broaden one’s research interests and expertise. The cliché of “a mile wide and an inch deep” best characterizes the skill set required for success in this assignment. You must also build a good “service reputation,” where your name is recognized by others as someone who can lead and deliver on a wide range of topics. Some would argue that getting great FITREPS and awards throughout your career is all that is needed to succeed, but I do not agree. When I was a LT, CAPT Dennis McBride sat me down and explained the following to me – I have found this advice to be 100% correct throughout my career. Your reputation as an officer, a scientist, a manager, and a leader is continuously being shaped throughout your career, so don’t forget to build the type of reputation you truly want. You must also “bloom where you are planted,” as CAPT Mike Lienthal has consistently shared with AEPs throughout his career. You will find yourself in situations that are less than desirable, but it is the way in which you choose to handle those situations that will make the greatest impact on your service reputation. There is always a way to succeed in any billet. Demonstrating this ability throughout your career will certainly help prepare you for this assignment. Lastly, I recall that CAPT Tim Singer was fond of repeating a quote by Garrison Keillor of NPR which was, “Be well, do good work, and keep in touch.” If you endeavor to follow all this wisdom, you won’t end up too far from the mark. Best of luck!

Profiles in Program Management: PMA-205

BY CDR JAMES PATREY, NAWC-AD & LCDR BRENT OLDE, PMA-205

One of AEPdom's program management billets resides in PMA-205, the Naval Aviation Training Systems Program Office. PMA-205 manages the procurement, development, and fielding of training systems for Navy aircrew and maintainers. As of late, much of this work has focused on flight simulation, with an annual budget of roughly \$700M per year. That funding is directed by the requirements set by the OPNAV offices designated for training (N98) and supports the prime contractors who develop and provide training systems, along with the warfare centers (particularly, Naval Air Warfare Center Training Systems Division or NAWC-TSD) that control the technical authority for the final products.

The AEP billet in PMA-205 is a technology development and transition position, serving as an Assistant Program Manager (APM) and Integrated Product Team Lead (IPTL); a Navy CAPT runs the PMA as the Program Manager (PM). In order to have a solid foundation prior to taking this billet, interested AEPs must complete a tour in an acquisition coded billet (e.g., NAWC-TSD, NAWC-AD, NAVAIR), which provides the experience needed to complete the required Defense Acquisition University (DAU) Level III Program Management Certificate within 24 months of starting the position (certificate requirements can be found at <http://icatalog.dau.mil/onlinecatalog/CareerLvl.aspx#>). This is an O-5 coded billet, often filled by a Senior O-4 who will be in-zone for promotion to O-5 while in the billet. Personnel selected typically have a strong research and acquisition background. A Science and Technology Manager DAU Level II Certificate would be beneficial, but is not required for the billet.

There are two primary tasks controlled by this billet - a 6.7 (BA-7) advanced research and development program and coordination of PMA-205's Science & Technology programs (e.g., Office of Naval Research (ONR) Future Naval Capability, Rapid Innovation Fund (RIF), and Small Business Innovation Research (SBIR) programs). These programs transition innovative aviation training systems or subsystems to address Fleet needs. Often, they address cross-platform gaps, providing capabilities that address multiple aviation platforms. The key focus of this billet is to transition technology from research to Fleet use.

Supporting systems that ultimately end up in every Naval aviation platform or other programs of record is extremely challenging. Programs are typically insular, so there is no consistent flow of information from one program to other programs. Thus, AEPs in this billet must constantly communicate with a great many people to stay apprised of the training technology gaps. While each program struggles to adhere to its own schedule, the AEP must attend to EVERY program's schedule. Along the way, it is necessary to regularly update leadership, as well as the Requirements Officer at OPNAV (which can be quite an ordeal unto itself at times!). Additionally, it is a challenge to translate programmatic risks into research opportunities - not every risk or gap inherently has a research solution, nor does every research or technology solution inherently meet a risk or gap. This is essentially the renowned "Technology Push versus Requirements Pull" issue. Being effective in this position necessitates careful and rigorous decisions regarding which technologies should be developed and supported to address pro-



P-3C Orion crew station training device.



P-3C Orion cockpit flight simulator.



Exterior view of the E-6B Mercury full motion cockpit simulator.



Interior view of the E-6B Mercury cockpit flight simulator.



The USN E-6B Mercury in flight.

gram needs. This can be extremely difficult as programs rarely have a clear understanding of their out-year risks (i.e., those problems that need 5-8 years to develop the needed technical maturity). As such, there is a need for some prudent forecasting, which is generally aided by knowledge of cross-platform needs, continual surveillance of technology developments, a skilled technical team, and of course, a little luck never hurts.

One of the most common difficulties in technology transition is that research-driven solutions tend to focus on improved performance. While it is highly desirable to have systems capable of the highest performance, performance is but one of the three pillars of a program (cost and schedule being the other two) and can fall a distant third in terms of importance. Programs generally have clear thresholds set via Key Performance Parameters (KPPs), and exceeding these KPPs (or providing “gold plated” performance) is of little value (note: this does not mean it is not worthwhile or a good idea, only that it is not what the program was directed and resourced to accomplish). Understanding cost and schedule in relationship to performance is exceedingly important for successful technology transition.

Perhaps the biggest challenge in this position is con-

vincing other APMs to plan for the integration of an unproven, under-developed research solution to meet one of their gaps. Innovative technology typically has program risk; if the technology should fail, the program will fall behind schedule and incur costs. Thus, this position requires a solid understanding of where research fits within the acquisition cycle and sensitivity to the programmatic risks. Sometimes, an S&T program can be used as a risk mitigation strategy by addressing a much-needed gap that was considered too risky to be included in the program of record. The program develops a “safe” alternative, while your team develops and tests the risky innovative technology. Once the new capability is proven, it is delivered through a timely insertion into the program’s acquisition cycle.

When you can navigate all of these obstacles, you can successfully transition innovative, valuable technologies to Fleet training systems. A great deal of satisfaction is derived from this accomplishment. You can see fielded systems in action that your team was instrumental in developing and know that these systems are providing our warfighters with the very best we can offer.

Profiles in Program Management: ONR

Charting a Course as a Science and Technology Manager

BY CDR JOSEPH COHN, ONR

Shortly after becoming an Aerospace Experimental Psychologist, I received some sound advice from one of my mentors: “Take a deep look at the various billets we have and build several different career trajectories.” The rationale behind this guidance was simple. Even though the AEP community has many more billets than any one of us will be able to occupy in one tour, it is unlikely that *all* the billets any one of us would like to occupy will align well with our rotation dates. Having alternate career trajectories allows for some level of forethought in terms of how to handle a situation in which either a sought after billet becomes ‘closed off’ or an unanticipated billet ‘opens up.’

From the perspective of AEP and Navy leadership, I have found that having several career trajectories makes it easier to discuss career plans and billet moves at any point in time. From a personal perspective, I have found that having these different trajectories has forced me to consider at a high level what my professional ‘story’ is. These plans provide me with a framework for discussing the widely varying efforts I have been responsible for in each of my billets. The end result is that, rather than presenting each effort as a stand-alone action – which I have found often confuses civilians – I can present the range of billets as pieces of a larger career story. As a consequence, it is easier for the civilian and military professionals I work with to quickly relate to my capabilities and to more easily help me identify interesting and relevant opportunities.

Early on I decided that as best as possible, I wanted to have a career trajectory that would move me from bench level scientist, to program manager, to science and technology (S&T) leader, to S&T policy maker and strategist. A quick survey of our billets (this list has changed a bit since I was winged 11 years ago!) indicated to me that the most suitable billets for bench level scientists included these options: NAWCTSD, NRL, NAVAIR Pax River. Next, for program management we have: PMA 205, ONR, DARPA, and NRL. For S&T leadership, billets include Office of the Assistant Secretary of Defense (Research & Engineering) and NAVAIR Pax River. Lastly, policy and strategy billets include our OPNAV billet. Assembling the different trajectories, I came up with three potential career paths:



Importantly, each of these trajectories only covers about an 18-year career – this allows for some flexibility in both the timing of each tour (some may be shortened, some may be extended) as well as for some risk mitigation – some billets might be out of synch, some new ones might arise that would alter a given trajectory.

In terms of how well I aligned with anyone of these trajectories, at each step (i.e., each PCS opportunity) I sorted through each trajectory based on the available billets (determined by community needs) and the billets which logically made sense as follow-on tours (based on career needs). Below, to date, is what my actual career trajectory looks like.



The career story that covers this trajectory is pretty simple. I started out doing basic, Navy relevant research at NAWCTSD (*bench level research*). I built on that experience at NRL, where I had the chance to assist in developing a human systems integration lab, which is still active today (*bench level research, program manager*). I spent a year in a post-doctoral program learning more about developing science and technology policy, specifically, with DoN applications. Following the post-doc I worked for the Chief of Naval Personnel, where among other things, I developed a science and technology research investment plan for manpower, personnel training, and education (*policy and strategy*). I then moved on to manage programs at DARPA, the largest of which directly supported (and transitioned) to N1 in support of their new IT of the Future efforts (*back to program manager*). Lastly, at ONR, I helped develop a new position, Division Deputy, in the Warfighter Performance code (*science and technology leadership*).

Ultimately, every AEP needs to consider three things in charting their own career trajectory: Needs of the community, needs of their career, and of course, the needs of the command to which they are assigned. For this reason, having a single long-term plan is insufficient – it reduces your flexibility and makes it harder to place you should a billet you want be unavailable. By the same token, having too many different career trajectories makes it difficult to hone in on any one billet when the time comes to make a choice. Having a few such trajectories, together with an underlying story that covers all of them at a high level, will assist you in making specific billet assignments and in making the most of any billet to which you are assigned.



Scientific Advisory Teams (SAT)

BY LCDR (RET) JIM JOHNSON, AEP #9

Most of the United States Naval Aerospace Experimental Psychologists (AEPs) in the early 1960s were engaged in improving the rapidly expanding system for selecting aviators. Their efforts included the development and refinement of statistical techniques spurred along by significant improvements in computer technology. Recommendations for research projects involving aviator selection and training were provided by AEP #1 CAPT Allen Grinsted, who was serving as the liaison on the staff of the Chief of Naval Air Training.

AEPs were also investigating perceptual factors, psychological stress, motion sickness, and rotating environments, assisting in the 1000 aviator studies, developing performance measurement techniques, simulating human operator performance, focusing on the visual aspects of naval aviation, dabbling in personality issues, and discovering the importance of peer nominations in secondary selection (Please e-mail jhayesjohnson@msn.com for authors and titles of AEP publications from this time period).

RATIONALE FOR THE SATS

The zeitgeist of the early 1960s was favorable for the installation of AEPs into the operational Navy because basic research sponsored by the government, with the exception of some space activities, was held in abeyance or otherwise discouraged, while applied practical research endeavors were encouraged (and funded).

Senator Proxmire and his “Golden Fleece” award had not yet arrived, but the trend to primarily fund research with direct and practical applications had already begun. The stage was set for emergence of an applied research vehicle like the Scientific Advisory Teams (SATs).

Historically, the effectiveness of anti-submarine warfare (ASW) was measured by multiplying the probabilities of all subsystems performing as expected during simulated or at-sea exercises. In the early 1960s, many formulae were invented for finding and killing submarines. One innovative technique for measurement of systems effec-

tiveness was developed by the Commander, Submarine Development Group Two (COMSUBDEVGRUTWO), New London, CT. SUBDEVGRUTWO was formed in 1949 to study and improve techniques for the use of submarines against submarines. It is described here to demonstrate the precision of the schemes used in measuring and predicting ASW capabilities. It also identifies the need for the implementation of human factors engineering into operational aspects of the Navy.

In the 1960s, a segment of the staff at SUBDEVGRUTWO was under the direction of Commander Don “Big Daddy” Whitmire. CDR Whitmire (later Admiral Whitmire) was a former All-American football lineman at both the University of Alabama and the Naval Academy. This SUBDEVGRUTWO staff developed a mathematical formula for the prediction of the effectiveness of a submarine in finding, tracking, and killing another submarine. The algorithm for the prediction of Weapon System Effectiveness (WSE) was:

WSE = Pd x Pc x Pa x Pfc x Pwp x Ps, where:

- Pd is the probability of detection
- Pc is the probability of correct classification
- Pa is the probability of a successful approach to a correct firing position
- Pfc is the probability of obtaining an accurate fire control solution
- Pwp is the probability of placing a weapon or weapons in a position from which it/they should be able to sink the target, and
- Ps is the probability of the weapon(s) sinking the target

The range of probabilities was from 0 (no correlation) to 1 (perfect correlation). Obviously, a probability of 0 for any subsystem negates the possibility of system success, while a probability of 1 would indicate perfect performance; however, human operator performance was missing from the WSE equation. The SUBDEVGRUTWO staff recognized the importance of the human

operator in the system, but struggled with how to quantify operator performance. Sometimes a “1” was inserted for the human element during analysis of an ASW exercise because a “0” would disrupt the equation. Therefore, the Human Factors Engineering (HFE) Branch of the Submarine Medical Research Laboratory (SMRL) was invited to help devise a way of incorporating the human element into the WSE formula. The HFE Branch Head, Dr. George Moeller, and LT Jimmie H. Johnson were the principal participants in the effort to incorporate operator performance into the WSE.

Establishment of the SATs was not the only move to get AEPs involved in operational Navy activities. AEPs were assigned to the Operational Test and Evaluation Forces Atlantic (OPTEVFOR), Norfolk. The OPTEVFOR AEPs were Gabriel P. Intano and Allen J. Schuh. CDR Madden also arranged for Curtis E. Sandler and John C. Ferguson to be assigned to the staff of Anti-submarine Warfare Forces Pacific (ASWFORPAC). Some years later, CAPT Madden was on his way to visit the SAT in Pearl Harbor when he succumbed to a heart attack in San Francisco.

ENTER THE SATS

The leader of the AEPs was CDR William F. Madden (AEP # 2), Head, Aviation Psychology, Bureau of Medicine and Surgery (BUMED). Known affectionately (thanks to Bob Kennedy) as “Uncle Willie,” CDR Madden was enthusiastic about getting AEPs immersed in the operational Navy. He sometimes referred to this notion as “operational psychology.” He managed to acquire

enough billets (i.e., raided optometry) to field the SATs.

The first temporary additional duty (TAD) SAT was established in the early 1960s as a result of an alliance between CAPT Michael Lulu, a naval aviator in the office of the Chief of Naval Operations (OP-95) and CDR Madden. The purpose of the SAT was to enhance the effectiveness of predicting weapon system performance by including measures of crew performance. CDR Madden secured funding for three AEPs from the School of Aviation Medicine (SCHAVMED) in Pensacola to form the first SAT. This was a TAD assignment to COMFAIRWINGSLANT, Norfolk. The three AEPs, along with CDR Madden, were LT Richard Shoenberger, LTJG Jimmie Johnson, ENS Lawrence Hardacre. While operating out of FAIRWINGSLANT, they visited and participated in ASW activities at squadrons in Norfolk, Bermuda, and Jacksonville, FL. On at least one occasion, the SAT was accompanied by Robert Camp, a civil service audiologist from SCHAVMED, who was assessing the effectiveness of various sonobuoys and other listening devices.

In the spring of 1962, SAT members CDR Madden, LCDR McMichael, and LTJG Johnson participated in a United States/British/French joint ASW exercise operating out of RAF Base Ballykelly, Northern Ireland. The Americans were flying P-2Vs and P-3As, the French S-2Fs, and the British, the Shackleton. Flight pay was well earned in those days, especially during Julie bombing patterns and magnetic anomaly detector (MAD) Trap exercises in the P-2V and S-2F. One French crew claimed to have executed a MAD-trap so near the water that they flew beneath the conning tower of a surfaced submarine!



A Lockheed P2V-7 Neptune assigned to patrol squadron VP-7 Black Falcons flies over the Atlantic in the mid-1960s

The Americans had a lot of fun, but were not nearly as creative as the French, who flew in with their extra fuel tanks filled with wine and gave a ride in their S-2F to a local Londonderry girl, who in return, planted a nice in-flight lipstick kiss print on a lofargram (low frequency analysis and recording) that turned up during the debriefing. By the way, the fool who crossed the active runway in the Mini Morris rental car was LTJG Johnson.

Northern Ireland, compared to the United States, was behind the times. It was interesting to note that the ditch-digging was done by Irishmen using picks and shovels instead of backhoes and tractors. It is also interesting that the laborers wore neckties and felt hats similar to those worn by American men in the 1920s and 30s. Also, when Al McMichael and Jim Johnson played golf in Belfast, dressed in appropriate American golf attire, the Irish golfers wore neckties. Later in the clubhouse for lunch, neckties were required, but the AEPs were forgiven because, “We understand, you are American.”

Life in the Bachelors Officers Quarters (BOQ) was pleasant. Although debriefings operated on a 24-hour around the clock schedule, tea and freshly polished shoes were offered by the batmen (officer's personal orderly) no matter what the hour.

For the east coast navy, the Commander, Antisubmarine Warfare, Forces, Atlantic, Norfolk, VA (COMASWFORLANT) was responsible for the shore-based sound surveillance system (SOSUS, a chain of underwater listening posts), as well as surface ships, submarines, and air surveillance platforms. The Commander, Fleet Air Wings, Atlantic (COMFAIRWINGSLANT) was responsible to COMASWFORLANT for Patrol Plane ASW. The Commander Hunter/Killer Forces (COMHUKFORLANT) was responsible to COMASWFORLANT for surface ship and ship-based aircraft ASW.

System performance measurement for airborne ASW platforms was similar to the WSE formula described above for submariners, but included such factors as sea state, sonobuoy reliability and accuracy, as well as the reliability of various hardware and software components and the probability of being killed yourself. Occasionally, system or component maintainability and reliability were thrown into the equation.

During this time period, COMFAIRWINGSLANT formed an innovative organization called Task Group Delta to explore the use of advanced technologies and tactics to aid in the detection and localization of underwater targets (submarines). Task Group Delta was a small group of about 18 people, composed of Naval Aviators, Naval Flight Officers, civil service scientists and contractor scientists (primarily acoustical and underwater noise

experts), and support staff. At that time, most of the patrol aircraft were P5Ms and P2Vs. As P3s were phased in, Task Group Delta received the latest updates.

Shortly thereafter, a SAT attached to Task Group Delta at FAIRWINGSLANT became a permanent change of station assignment for SAT members Allen McMichael, Bertram Lowi, Horace J. Connery, Charles Theisen, John C. Ferguson, and Jerome T. Trexler. A little later, another SAT under the direction of CDR McMichael was established at the headquarters of COMASWFORLANT. CDR McMichael was assisted by AEP LT James H. Ashburn, James E. Wise, Ph.D., GS-14 civil service (later University of South Carolina psychology professor), and three civil service support personnel. A SAT was also established at Commander, Hunter Killer Forces, Atlantic (COMHUKFORLANT), also in Norfolk, with LCDR Horace J. (Mike) Connery as the leader, assisted by AEP Howard Fleishman and civil servant James Long.

The following AEP personnel participated in the SAT program (in chronological order):

- | | |
|---------------------------|--------------------------|
| 1. William F. Madden | 9. John C. Ferguson |
| 2. Richard W. Shoenberger | 10. James H. Ashburn |
| 3. Jimmie H. Johnson | 11. Jerome T. Trexler |
| 4. Lawrence E. Hardacre | 12. Michael E. McCauley |
| 5. Allen E. McMichael | 13. Richard H. Shannon |
| 6. Bertram H. Lowi | 14. Lewis E. Waldeisen |
| 7. Horace J. Connery | 15. Richard E. Doll |
| 8. Charles J. Theisen | 16. Howard L. Fleischman |

These SAT members developed techniques for the measurement and evaluation of human operator performance during antisubmarine flight operations. They studied performance of operators monitoring underwater listening stations and sonobuoys and evaluated tactical decisions. Fatigue, motion sickness, circadian rhythms, and other effects of long flights on human performance were also assessed.

EXIT THE SATS

SATs faded away after about 10 years and AEPs moved on to assignments emphasizing R&D management and administration. Thus ended this amalgamated version of hands-on-science and bench-level research.

CDR Madden recognized that the human element (i.e., operator performance) was being ignored during the calculations of system performance. The SATs were critical to ensuring that this was remedied, changing the role of AEPs in the Navy forever.

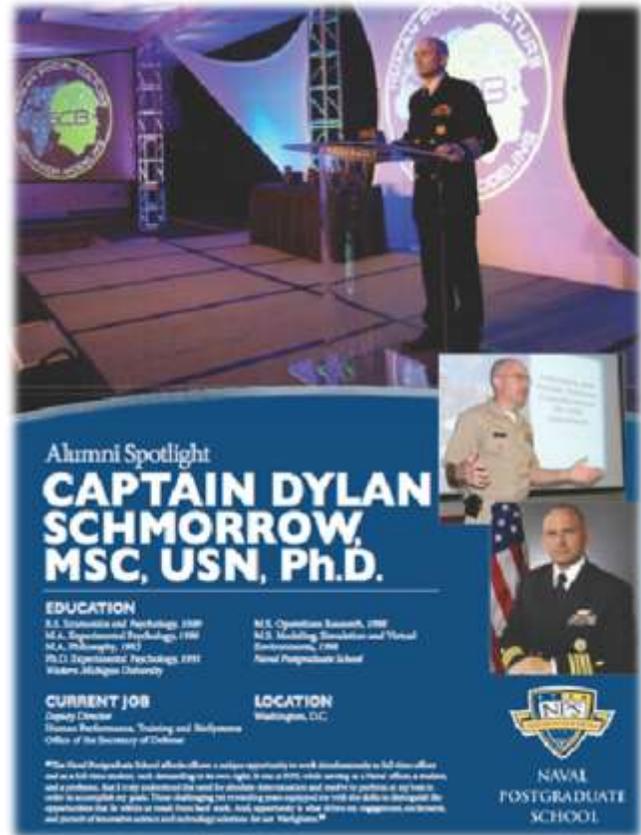
Bravo Zulu



Naval Postgraduate School Recognizes CAPT Dylan Schmorrow's Contribution to the Military

The Naval Postgraduate School (NPS) recognized CAPT Dylan Schmorrow's contribution to the military during the 2012 Science and Technology Conference of the U.S. Pacific Command (USPACOM) with an alumni spotlight poster hosted at the NPS booth. The conference attracted participants from most of the U.S. geographic combatant commands, the U.S. Department of State, leading representatives from the science and technology research and development community, and industry. CAPT Schmorrow delivered a plenary address at the Conference discussing the nation's leading strategic challenges, the role of socio-cultural behavior science and technology in meeting those challenges, and the activities and impacts of the Department's flagship initiative, the Human Social Culture Behavior (HSCB) Modeling Program.

Through his remarks and engagement with participants during the meeting, CAPT Schmorrow provided national leaders for applied science and technology with an in-depth look into the HSCB Program's work, including the Worldwide-Integrated Crisis and Early Warning System (W-ICEWS). He also increased awareness of the Program's key partnerships with the COCOMs and with Programs of Record, to include the Integrated Strategic Planning and Analysis Network (I-SPAN). Overall, he emphasized several themes: his vision and optimism about the domain of applied socio-cultural behavior research, the concrete solutions being delivered, and the impact HSCB



is having on operations, industry, and the scientific community.

When asked by NPS to provide a quote, he responded, "The Naval Postgraduate School affords officers a unique opportunity to work simultaneously as a full-time officer and as a full-time student, each demanding in its own right. It was at NPS, while serving as a Naval officer, a student, and a professor, that I truly understood the need for absolute determination and resolve to perform at my best in order to accomplish my goals. Those challenging yet rewarding years equipped me with the skills necessary to distinguish the opportunities that lie within or result from hard work. And, opportunity is what drives my engagement, excitement, and pursuit of innovative science and technology solutions for our warfighters."



Bravo Zulu



UCAS-D X-47B MISSION CONTROL EXERCISE

CDR Joseph Cohn and CDR Jim Patrey participated in a UCAS-D X-47B Mission Control System Exercise at Northrup-Grumman's El Segundo facility, along with VX-9 pilots, Northrup-Grumman's X-47B test pilots, and Commander Naval Air Forces (CNAF) Surgeon, CAPT Kris Belland. The purpose of the exercise was to conduct an assessment of the Mission Control System's (MCS) performance relative to required capabilities and functionalities. The exercise required a two-person team to control six simulated X-47B aircraft to identify (and destroy in a second event) tactical ballistic missiles in a defended airspace. The task required the two 'pilots' to assemble a rudimentary plan, divide control of aircraft, set waypoints and targeting, and review imagery. The vehicles were highly autonomous, planning their own refueling, building routes to waypoints based on threat settings and information, capturing imagery without prompting, etc. The vehicles had other facets of automation, such as reviewing defined target areas every 30 minutes, which could not be reset and often interfered with operator waypoint planning, resulting in everyone often 'fighting' the system. It was a great lesson for all on the benefits and challenges of automation, with some specific lessons learned in the development and fielding of unmanned systems. It is worth noting that the Belland/Patrey team outperformed the other teams on both the ISR and Strike exercises - Go restricted line officers!

LCDR PETE WALKER PARTICIPATES AS A JUDGE FOR THE GULF COAST REGIONAL SCIENCE FAIR

LCDR Pete Walker participated as a judge for the 2012 Coastal Bend Regional Science Fair sponsored by Texas A&M University at Corpus Christi. As a judge for the event, Pete assessed the scientific merit of over 100 science projects submitted by students from grades 6 through 12.

Judging for the event was an intense experience. LCDR Walker was particularly interested in a project exploring paw reaching preferences for different breeds of dogs. This particular student, without prompting, sug-

gested that paw reaching preferences might provide evidence for contra-laterality in the brain and therefore, could be used to determine which breeds of dogs are better suited for certain analytic tasks such as airport security and bomb detection. Rumor has it LCDR Walker also did some recruiting for the next generation of Aerospace Experimental Psychologists! As LCDR Walker put it, "From what I experienced as a judge, science and technology has a bright future in the U.S. The creativity, innovation, and critical thinking displayed by these students were very impressive."



LCDR Pete Walker at the 2012 Coastal Bend Regional Science Fair

LT LEE SCIARINI AS ACTING TDA FOR ONR CODE 30

LT Lee Sciarini is now acting as the Technical Direction Agent (TDA) for ONR Code 30 HPT&E Decision Making and Expertise Development. As TDA, some of his responsibilities include managing related science and technology (S&T) program execution, soliciting and evaluating relevant proposals, maintaining an archive of technical information, and working with performers to develop and update program briefs and relevant literature. Congratulations to LT Sciarini on this tremendous accomplishment!

For more information about ONR Code 30 HPT&E Decision Making and Expertise Development please go to <http://www.onr.navy.mil/en/Science-Technology/Departments/Code-30/All-Programs/Human-Performance-Training.aspx>

In Memoriam



A Final Farewell to our Shipmates

Sunset and evening star,
And one clear call for me!
And may there be no moaning of the bar,
When I put out to sea,

But such a tide as moving seems asleep,
Too full for sound and foam,
When that which drew from out the boundless deep
Turns again home.

Twilight and evening bell,
And after that the dark!
And may there be no sadness of farewell,
When I embark;

For tho' from out our bourne of time and place
The flood may bear me far,
I hope to see my Pilot face to face
When I have crost the bar.

Sir Alfred Lord Tennyson

Dr. Charles W. (Chuck) Hutchins, CDR (Ret.) USN (AEP #19) died on March 9, 2012. This memoriam was contributed by shipmate CDR (Ret.) Robert Kennedy (AEP #10) with help from fellow shipmates, Jim Goodson (AEP #7), Jim Johnson (AEP #9), Mike Curran (AEP #17), Mike McCauley (AEP #44), and Tom Mitchell (AEP #61). Family was by his side from the moment of his cancer diagnosis in October through his peaceful final moments.

Dr. Hutchins grew up in Altadena, CA, hiking the mountains of the Arroyo Seco. He obtained an M.A. in Psychology from Cal State, LA and a Ph.D. in Statistical Psychology from The Ohio State University.

In 1963, Dr. Hutchins joined the United States Navy and served his country for 23 years. Chuck arrived in Pensacola in 1963 (nearly half a century ago!) and reported to Building 16 where all the AEPs and civilian psychologists sat. There were about a dozen AEPs at any one time. Work at that time focused primarily on increasing the predictive validity for primary and secondary selection of student pilots. Bridge at that time was an inexpensive past time favored by many of the AEPs and their civilian colleagues and there was much social interaction among the Building 16 group. The military members at that time were Bob Wherry, Jim Johnson, Rick Doll, Bob Kennedy, Mike Curran, Al Longo, Larry Hardacre, Norm Lane, Chuck Hutchins, Dick Pomaroll, Len Green, Stan Harris, Dick Shoenberger, and Lee Beach. Recently transferred out of the military were Bill O'Connor, Larry Waters, Jim Goodson, and Tony Morton. John Bair, Roger Berkshire, and Rosdud Ambler were the civil service professionals. Edna Marks, Betty Gonzalez, Owen Townley,



Charles W. Hutchins, AEP #19 (1939-2012)

Peggy Duty, and Dick Irons were the civilian support people. The graphic arts person was Wilma Bredt.

Chuck's interests in predicting student pilot success gravitated towards procurement source (i.e., college major) and he worked with the other AEPs who were there to explore this issue. Chuck's other professional work activities in those early years (1963-1967) entailed collaboration on the Preflight Water Survival Score, Motion History Questionnaire, and Fitness as predictors of success in flight training and test battery optimization (with Bob Wherry Jr.), which later turned into a Ph.D. dissertation topic at The Ohio State University. The findings were published in Pensacola as a monograph and provided an algorithm for optimizing items (or tests) to form a composite in order to predict flight training success or any other named criterion for which cross-validation data were available.

After the stint at The Ohio State University for his Ph.D. in the 70's, Chuck was assigned to the Naval Air Development Center (NADC), Warminster, PA, where he again worked with RJ Wherry Jr. on model development and implementation of a Computer Assisted Function and Allocation and Evaluation System (CAFAES) - an algorithm employed in aircraft display and cockpit design.

From NADC, he went to the Naval Air Systems Command, where he supervised, directed, and managed the bulk of the Navy's RDT&E budget for human factors. In this role, his experience, judgment, and knowledge of quantitative methods was very much in evidence.

His Naval career culminated in 1986 after serving as an Assistant Professor in the Operations Research Department of the Naval Postgraduate School in Monterey. After retiring, Dr. Hutchins provided human factors engineering support to FMC in San Jose, CA (1986-1998); supported HFE Designworks by drawing upon prior work with PTSD and POW studies (2008-2011); and served as an Executive Coach for senior naval officers completing the Navy Corporate Business Course at NPS (2009-2011). In 2001, Dr. Hutchins received an M.A. in Marriage & Family Therapy from Chapman University. He began a private psychotherapy practice in Pacific Grove specializing in the diagnosis and treatment of adults with ADHD.

Dr. Hutchins was spiritually connected to the unparalleled beauty of the Monterey Peninsula and made this area home for the past 30 years. His free time was spent hiking with his dog, Goldie, throughout the lands maintained by the Big Sur Land Trust and along miles of trails in Fort Ord.

Family and friends will remember "Chuck" for his

loving, easy-going nature and energetic approach to living. Please visit www.imorial.com/ChuckHutchins for additional information regarding Dr. Hutchins' Life Celebration on April 21, 2012.

Personal remembrances from a few of Chuck's friends and colleagues:

From Jim Goodson (AEP #7)

His passing makes the world seem just a bit lonelier.

From Bob Kennedy (AEP #10)

I played tennis with Chuck from 1963 to the mid 90s whenever we were together. It was a great sport. I only beat him one set, one time and that was in the late 1980s. He won all the rest. He was a fierce competitor in tennis, but otherwise very good-natured. He did, however, have considerable statistical sophistication along with an open and engaging countenance.

From Mike McCauley (AEP #44)

Chuck was like a big brother to me. When I think of him, the following things come to mind – good sense of humor, twinkle in the eye, inquisitive mind, physically fit, cared about people (rather than power, money, or status), loved nature (hiking, fishing, etc.), unusual conjunction of scientific/quantitative and spiritual (seeker of a better understanding of the mysteries of life), enjoyed the practice of applied probability known as poker, Oenophile, excellent tennis player.

Chuck was a kind and encouraging mentor and a good, supportive friend. Thoughtful and insightful, he was quick to contribute advice, but only if asked. He was not pushy or self-centered, but spontaneous and generous with his time and attention.

When he worked as a Human Factors specialist, he fully adopted the principles of human-centered design. Because he cared about people, both specifically and in general, he did his best to make the world a better place, **not only for the generic "user," but also for the individual friend, associate, colleague, or trainee.** That same giving spirit applied to patients and clients in his subsequent work with adult ADHD. He will be missed.

From Tom Mitchell (AEP #61)

I relieved Chuck at the PG School in Monterey in '86, and we spent a lot of time, every Friday, playing tennis on the campus. I never could beat him and he always used his "tennis elbow" excuse for not playing better.

Chuck never needed ANY excuses for what he contributed to the AEP community and the Navy.

Calendar: Mark These Dates Down!

July 21-25, 2012

4th International Conference on Applied Human Factors and Ergonomics in San Francisco, CA
2nd International Conference on Cross-Cultural Decision-Making in San Francisco, CA

August 2-5, 2012

120th Annual Convention of the American Psychological Association in Orlando, FL

October 13-17, 2012

42nd Annual Meeting of the Society for Neuroscience (SFN) in New Orleans, LA

October 22-26, 2012

56th Annual Meeting of the Human Factors and Ergonomics Society in Boston, MA

November 10-16, 2012

118th Annual Meeting of the Association of Military Surgeons (AMSUS) in Phoenix, AZ

November 15-18, 2012

54th Annual Meeting of the Psychonomic Society in Minneapolis, MN

Congratulations to the proud parents!

It is our pleasure to announce and welcome the three newest AEP arrivals to the community:

- Antonio Anglero IV: born on 14 Feb 2012 at 6lbs 10oz to Tony and Diana Anglero
- Scarlet Hope Johnson: born on 10 May 2012 at 8lbs 7 oz to Brian and Kate Johnson
- Delaney Sophia Moglia: born on 31 May 2012 at 8lbs 4 oz to Tatana Olson and Frank Moglia



Call Signs is an electronic newsletter published on behalf of the United States Naval Aerospace Experimental Psychology Society (USNAEPS).

Postmaster: LCDR Tatana Olson
108 Saratoga Way NE
Vienna, VA 22180

Published three times annually in the Spring, Summer, and Fall.
Send articles to the address above or via email to the editor, tmo4@hotmail.com