Army Space Journal

A Professional Journal on U.S. Army Space Operations

2009 Summer Edition Vol. 8, No. 2 Published by U.S. Army Space and Missile Defense Command

Space

Best Job in the Army

Allard Commission

Interview with Retired LTG Ed Anderson Shows Space in Need of Attention

Army Space Journal

The U.S. Army Space and Missile Defense Command publishes **the Army Space Journal** quarterly, with special editions as required. The publication consists of four sections, FROM THE TOP – Leadership Updates; JOURNAL FORUM – Space Topics; TIP OF THE SPHERE – Space Cadre News/Features; and FLIPSIDE – USASMDC Features.

The Journal provides a forum through which Space operations professionals can disseminate professional knowledge and furnish information within the U.S. Army. The purpose is to increase the effectiveness of Space operations through a professional discussion of events and lessons learned. It is also intended to inform the Army warfighter on Army Space issues.

Recipient of 2002, 2003 and 2008 Department of the Army Keith L. Ware recognition for Excellence in Journalism.

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From The Top
Leadership Updates

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Cover Photo: DJ Montoya
Back Cover Photo: Sharon L. Hartman
Front and Back Cover Design : Michael Kahl

Editors Blog

An open forum to discuss everything Space related

File Edit Post Comment

The Way it is

Mike Howard Editor-in-Chief
michael.howard@smdc-cs.army.mil

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http://armyspacejournal.blogspot.com

28 July 2009

"And that's the way it (was)."

I think the good Uncle Walter would excuse a young editor for using his signature sign off to start the blog for this summer edition of the ASJ. Watching the CBS Tribute to Walter Cronkite that aired in prime time on July 19 shortly after his death, I was struck by two Space-related historical events: The Explorer Satellite launching into orbit and men landing on the moon. These are appropriate events to think about while considering how integrated Space is to military operations – and, therefore, "Space, the best job in the Army" – not so much for the occurrences themselves, but for what they teach us about what we do.

CBS aired the footage of the Explorer Satellite launch in 1958 upside down. Yes, there was black-and-white footage of Walter talking about how the Defense Department entered the Space effort by putting Explorer into orbit. And, as the news anchor spoke in the grainy clip of the original newscast, there was the upside down launch of the modified Jupiter C Rocket with Explorer on its tip showing in a window above Walter's head in the newsroom. Apparently unaware, Walter spoke on for a few moments about the brilliance of this before acknowledging the mistake with the promise that they'd get it turned right side up soon.

The second event goes beyond the nation's fascination with men landing on the moon in 1969 and planting a U.S. flag there. Here was Walter who himself was fascinated with the idea and prospect of Space exploration – perhaps planted or encouraged by the Explorer launch – putting his heart into the story. When he announced that President John F. Kennedy was dead, he did it with an understandable emotion that cannot be contrived. Equally when he announced that Apollo 11 had landed on the moon, Walter was clearly moved over what had been achieved. In fact, Walter's passion was extremely evident as he communicated the many events that moved our nation.

Until I watched the tribute to Walter Cronkite, I did not really see the connections. I was born a few months after Explorer went into orbit January 31, 1958 – wasn't even aware of the historic launch until Scientist Ed Kiker drug a surplus Explorer Satellite into my office in 2001 for display in the Command's operational hub in Colorado Springs, Colo. When the President was shot on November 22, 1963, I was a toddler and vaguely aware. But I remember watching the Apollo 11 footage while in the fifth grade shortly after the Spacecraft landed on July 20, 1969.

To me, it is too overwhelming to fully comprehend the impact of Space on our world today. Yet these iconic events – a rocket launch with America's first satellite, the assassination of a US president who had the vision for Space exploration and US men walking on the moon – clearly lay the foundation. Today, astronauts travel to Space riding on rockets and the military uses capabilities tied to important data that travels through satellites.

I am not a Space expert. I am a journalist. There's a parallel here that I am making from the tribute to Walter Cronkite. It has to do with capacity of calmness in dealing with mistakes while exploring new things – upside down footage. It has to do with the reality of passion and human courage. Space is definitely different today, intimately and silently inlayed into the nerve center of human activity. The challenge to the military Space community is to intensify the connection to help national security. The challenge to journalism is to inform understanding. The calmness and passion of Walter Cronkite are necessary ingredients for both.

Posted by Mike Howard at 12:37 PM Comments

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The Army Space Journal link will be working later today ... check it out ... http://smdc-armyforces.army.mil/ASJ

Latest: Answering the question …Why does Space matter to the Army. Hope to have the Army Space journal url up and running tomorrow.

Update

Home

theASJeditor Answering the question ... Why does Space matter to the Army. Hope to have the Army Space Journal url up and running tomorrow

about 20 hours ago from web

theASJeditor I see Army War College classmates Michael Baker, Richard Kaley, Thomas Lewis, Marshall Michels and Michael Wells made the Colonel's list!

8:04 AM Jul 21st from web

theASJeditor Interesting from the CBS Walter Cronkite Tribute Sunday night ... when Explorer Satellite went up in 1958, CBS ran the footage upside down.

7:55 AM Jul 21st from web

theASJeditor More on Symposium ... to be held 3-7 Aug in Colorado Springs Theme is Space - Best job in the Army

2:51 PM Jul 20th from mobile web

theASJeditor

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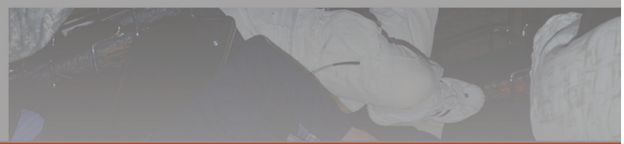
Photo Updates

Minnesota Educators watch launch of U.S. Army Astronaut Tim Kopra on STS-127, July 15.The group watched the launch from U.S. Army Space and Missile Defense Command/Army Forces Strategic Command operations Headquarters, Building 3, Peterson Air Force Base, Colo. Photos by DJ Montoya, 1st Space Brigade



LTG Kevin T. Campbell

Commanding General,
U.S. Army Space and Missile Defense Command/
Army Forces Strategic Command

Army Space Cadre

– Linking Warfighters to Advanced Space Capabilities

Welcome to the 2009 summer edition of the Army Space Journal, and thanks to all of you who attended the Space Cadre Symposium in Colorado Springs.

"Space – the Best Job in the Army," was the theme for the symposium and certainly it is emblematic of the professionals who make up the Army Space Cadre.

Many of us grew up hearing that Space was "the final frontier." Today, Space is no longer a frontier but a domain that is critical to maintaining the safety and well-being of America, our allies and our friends. For most Americans, Space-enabled technology is invisible as it provides nice-to-have items like news, weather, sports, entertainment and GPS. It also enables some essential things such as finance, transportation, utilities, and search and rescue.

For the Warfighter, Space represents more than just "nice to have," it represents critical enablers that are essential in today's battlespace. Critical elements such as persistent intelligence, surveillance, and reconnaissance (ISR), integrated missile defense, friendly force tracking, and enemy force tracking provide Warfighters with advanced capabilities. Those vital capabilities are made possible through the efforts of the Army Space Cadre

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> **"Few people – military and civilian alike – really understand how Space-enabled products are transmitted or created. Truly, all they want to know is how fast they can access the information."**

and their counterparts in our sister services. Few people – military and civilian alike – really understand how Space-enabled products are transmitted or created. Truly, all they want to know is how fast they can access the information.

Bill Gates states in his book, Business @ the Speed of Thought, "if the 1980s were about quality and the 1990s were about reengineering, then the 2000s will be about velocity."

I believe we are at the point in military history where decisions are starting to be made at the "speed of thought."

It is generally agreed that we are in an era of persistent conflict in which we will continue to be challenged asymmetrically. Hybrid threats such as terrorists, criminal elements, and irregular forces will combine and create complex challenges. This strategic environment is contained within a much larger mosaic, one which futurist, Thomas Friedman, refers to as a "Flat World." This is a world where our normal line and block hierarchy is flattened through the use of technology.

Key to operating at the speed of thought in a flat world is a change in how and where we process information. Technology has helped flatten the hierarchy and enabled Warfighters at the tip of the spear to receive and act on more information than ever before.

Also at the tip of the spear, and at the confluence of a flattened technological hierarchy and a burgeoning "Information Age," is the Army Space Cadre. These Army Space professionals link Warfighters to advanced Space capabilities. Providing Space capabilities to the Warfighter at the "speed of thought" requires educated, trained and versatile Space professionals. Sharing information and acting on information at the lowest level requires competent and confident members of a team. Competence is a result of both individual and institutional actions. Individuals have a responsibility to become students of their profession – commit to lifelong learning, read. Organizations have a responsibility to educate and train their team members – spend the time and resources to send individuals to career-enhancing courses. The Army Space Cadre Symposium was an excellent opportunity to gain valuable information about our profession as well as to network with those who ultimately will be your teammates.

The agenda for the Army Space Cadre Symposium was robust with speakers from across the services and agencies that enlightened and educated those in attendance. It was a tremendous opportunity to take advantage of a great educational opportunity as we try to make, "Space – the Best Job in the Army."

"SECURE THE HIGH G

CSM Ralph Borja

Command Sergeant Major,
U.S. Army Space and Missile Defense Command/
Army Forces Strategic Command

Technological Advancements

Make Space the Best Job in the Army

The focus of this year's Army Space Cadre symposium was "Space, the Best Job in the Army." Looking back over my career as a Soldier, I've watched technology move forward at an astonishing pace. In thirty years, we've gone from mainframe computer systems hosted at colleges, universities and government facilities to advanced home computer systems – many of which have high speed internet access. The Army's rapid advance in the use of Space enablers has paralleled the progress of technology.

At the end of the Vietnam War, the Army used very few Space enablers. Military Satellite Communications was limited to a handful of 5 and 25 KHz transponders on Air Force satellite communications satellites and Navy satellite communications satellites which provided virtually no communications capability for the Soldier in the field. Almost all Intelligence, Surveillance and Reconnaissance data was collected by troops in the field, and topographical maps used to maneuver may or may not show the new manmade lake, destroyed bridge, or other obstacle currently in your path.

Today, we have more than 4 GHz of commercial satellite communications going into one combatant commander's theater of operations alone. We obtain Intelligence, Surveillance and

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"Obviously, the roles and missions of Army Space Cadre members are varied and diverse. All require unique skills and highly specialized training, and all provide Cadre members with the unique opportunity to significantly contribute to the Warfighter's ability to successfully execute mission objectives."

Reconnaissance from multiple sources – commercial and military satellites, unmanned aerial vehicles and traditional reconnaissance methods – providing detailed and current information about our operating environment, we obtain instantaneous missile warning data from Space-based sensors, and we use global positioning satellites to navigate to precise locations around the globe and to track the location of friendly forces.

One could easily argue that Space enablers have become Space dependencies, but that is a discussion for a different day. Today, I'd like to address the critical contributions members (Officer, Enlisted and Civil Servant) of the Army's Space Cadre makes on a daily basis in support of our Warfighters.

Members of the Army Space Cadre are involved in all aspects of the Army's use of Space enablers. Cadre members help the Warfighter properly articulate, document, validate and advocate their requirements. Other Cadre members perform research and development in the search of new ways to meet these requirements, while still other Cadre members work in or with program offices and/or the Operationally Responsive Space office to develop and field systems to meet validated Warfighter requirements. Army Space Cadre members perform verification and validation functions on newly launched Space enablers and ultimately serve as operational crew members providing Space and missile defense support to the Warfighter. Finally, Cadre members are embedded with the Warfighter, helping assure their access to and use of Space enablers.

Obviously, the roles and missions of Army Space Cadre members are varied and diverse. All require unique skills and highly specialized training, and all provide Cadre members with the unique opportunity to significantly contribute to the Warfighter's ability to successfully execute mission objectives.

No matter what role or mission Army Space Cadre members perform, each Cadre member contributes to the Army's ability to successfully fight and win the ground war. For Army Soldiers and Civilians serving in the Army's Space Cadre, Space, really is the best job in the Army.

"SECURE THE HIGH G

BG Kurt S. Story

Deputy Commander for Operations
U.S. Army Space and Missile Defense Command/
Army Forces Strategic Command

Space Making A Difference

Welcome to the summer edition of the Army Space Journal. We recently conducted the 6th Annual Space Cadre Symposium here in Colorado Springs. The planners for this event and publication got it right when they selected the controlling idea or theme – Space really is the best job in the Army. I say this because I know there is a high-degree of respect for the value that Space-based capabilities deliver to the fight and the overall Warfighter mission.

MAJ Glen Hees, a Space operations officer in the command's G3 section, summed up this value the best: "Space capabilities save lives. The ground Warfighter doesn't care how in-flight ballistics affect a Hellfire missile – he cares about taking out the bunker he's receiving persistent sniper fire from. Likewise, the Warfighter doesn't care about the fact that his communications are traveling thousands of miles through Space, he just wants his communication to get through. Space professionals often struggle with the question of whether they are truly having an impact. The basic tenets of shoot-move-communicate have not changed in the last 30 years. What has changed is the ability of Space to make these tenets better by helping the Warfighter gain situational awareness through timely terrain and imagery data and friendly force tracking. In this day of 'normalized' Space, many of the capabilities are taken for granted, but they nevertheless are vital to the Warfighter and his mission."

It's easy to point out indicators that this is a great career field – factors such as selection rates among Space operations officers for promotion and schools, availability for them to attend graduate schools, transfer of Space-related skills after retirement, expansion into new and exciting roles as Space potential develops, and opportunity to work with state-of-the art technology. These could be at least contributing factors for more than 80 officers becoming FA40s in 2007, 2008 and so far this year from the active component Army while nearly 735 enlisted and more than 250 government civilian employees were classified Space enablers this year. Even 17 Army captains turned down the Captains Incentive Program offer of $25,000-$35,000 to become FA40s.

Another indication that Space is a respected job in the Army community is the success of its members in Army terms – promotions and selection to Senior Service Colleges. The promotion boards show that Space professionals are holding their own and, in many cases, are doing better than the other functional areas they compete against in the Operational Support Career Field. In 2008, 50 percent of the officers

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"The reason there is respect is that the people in the Space cadre community make a difference."

in the primary zone for colonel were selected for promotion compared to 47.9 percent from the Operational Support Career Field. We also had two lieutenant colonels selected to attend a Senior Service College.

In the 2008 Lieutenant Colonel's board, FA40s were 13 for 13 in the primary zone and two were selected below the zone. In 2009, one made it above the zone, 8 of 10 from the primary zone for a 69.2 percent select rate against the Operational Support Career Field rate of 65.4 percent, and one was selected below the zone. From the 2008 and 2009 Majors boards, all the captains in the primary zone were selected. The selection rate for the Operational Support Career Field overall in those two years was 86.8 and 89.6 percent respectively.

Not bad – not bad at all!

There is also opportunity in terms of civilian education and life-after-military. Every year the Army pays for six officers to start on their master's degree through Advanced Civilian Schooling and for two officers to take advantage of the Training with Industry Program. Additionally, the Army Space Personnel Development Office – formerly the Space Cadre and FA40 Proponency Office – is working to create at least one PhD program. In addition, experience in Space operations transfers well into civilian pursuits – not all career fields can make that claim. Of those who have retired since January 2009, four are continuing to serve the military, one as an Army government civilian and three as defense contractors. One other sought and accepted a position as a policeman, again still serving the community.

I'd like to tell you about two officers who chose the Space field and why they think Space is valuable to the Army.

In 1999 when he designated "FA40" on his preference sheet, LTC Bob Klingseisen had already been involved in the Space field for nearly 10 years and knew he wanted to continue. He'd been a combat and topographical engineer. The Army had sent him to get a master's degree with a geospatial sciences concentration – he later taught the subject at West Point. He attended the Command and General Staff College and stayed at Fort Leavenworth, Kan., to help write the tasks, conditions, and standards for the first FA40 qualification course. Later, he was one of the "guinea pigs" for that first course. Since then, Bob has worked at the strategic and operational levels at what was then U.S. Space Command, U.S. Strategic Command, and the National Security Space Office in Special Technical Operations, Space operations and Space policy and strategy billets.

He said that he's found the field to be interesting, challenging, and extremely rewarding. He starts the Army War College this month (congratulations, Bob). From his experience, he noted this about the value of Space to our military: "Without the capabilities provided by Space systems – such as communications, PNT (positioning, navigation and timing), missile warning, remote sensing – that we have grown accustom to, we would have to revert to an industrial age fighting force. This is something we are ill-equipped for, both mentally and physically."

LTC Mike York added that the best job in the Army was being a commander, but Space is a close second. When he was a senior captain in 2000, he saw both risk and opportunity in the new functional area and wanted to be part of it – and had to put up a small fight to finally get it. He was selected to attend the Naval Postgraduate School as an FA40, but the designation board placed him as an FA30! So Mike appealed and was made an FA40. Since then he has served in Special Technical Operations and Space billets at the former U.S. Space Command, U.S. Strategic Command and in the 82nd Airborne Division. Currently he is an Operations Branch Chief and Special Technical Operations planner in U.S. Africa Command. Mike said that he has worked in unique programs and has had exposure to operations which would have never happened had he not been an FA40.

Since he can't be a battery commander again, he's glad to be an FA40. He observed this about Space value: "Space matters because the medium of Space provides access to data and information that supports not just the multitude of military functions for operations – like intelligence and communications – but it also has an impact on civilian daily life. Something as simple as a Satellite Television broadcast can have an impact on military forces and interaction with a country's populace. Using remote sensing and geospatial information for water source analysis to potentially support Individual Displaced Personnel Camps can have an effect on conflict resolution or deter a crisis."

This brings us back to the original point about respect for the work that the Space community provides. The reason there is respect is that the people in the Space cadre community make a difference. They face many challenges to understand and fully use leading edge technology in our military context as the full potential of Space is further explored and realized. An example of this challenge is in cyber warfare – FA40s and Space enablers will be involved in some way as those cyber electrons do travel through Space systems. The Space cadre leads and trains Soldiers, develops Army Space policy, writes requirements for Warfighters, provides commercial imagery, teaches in the schoolhouse, advocates Army equities, serves in joint Space-centric agencies, figures out how to reconstitute Space, and trains to fly in it.

So the future is bright because we have great Americans in our Space cadre who can see the possibilities and who are ready to plot their own destiny and that of this young career field. All of this considered, I think you'd have to agree that Space is a darn good job, if not the best in the Army.

"SECURE THE HIGH G

Dr. Steven L. Messervy
Deputy Commander
Research , Development and Acquisition
U.S. Army Space and Missile Defense Command/
Army Forces Strategic Command

From Concept to Combat

This year's Army Space Cadre Symposium was an excellent forum for sharing ideas and information about the Army Space profession. The speakers scheduled at the symposium represented a cross-section from the services and agencies and made it a tremendous opportunity to learn and to share information with other Space professionals.

Since assuming the position in May as the Deputy to the Commander for Research, Development and Acquisition, it has been my privilege to provide oversight and management of the RDA elements of the U.S. Army Space and Missile Defense Command/Army Forces Strategic Command (USASMDC/ARSTRAT). My focus mirrors that of our commander – to provide the Warfighter advanced capabilities in Space and missile defense.

My duties entail heading the Contracting Activity; directing and controlling the accomplishment and execution of all research, development, and acquisition related missions assigned to USASMDC as well as overseeing all technical development and acquisition performance. The RDA subordinate elements of: the Space and Missile Defense Technical Center, the Technical Interoperability and Matrix Center, and the Contracting Acquisition Management Office, are able to reach across industry, military and academia to provide cost-effective solutions to Space and missile defense challenges faced by our nation's

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"As Army Space Cadre, you are a part of the process – by helping us identify needs and by providing feedback. It is vital that we hear from you – what works and what doesn't work."

Warfighters. We like to say that we take Warfighter needs from "Concept to Combat."

Our efforts are focused on Space superiority, tactical responsive Space, high altitude long loiter, cyber, directed energy, and battlefield integration (with several programs in each one designed to answer some of the identified gaps in Space capabilities). Each of the RDA elements are made up of civilians and military personnel dedicated to developing or acquiring the best Space and missile defense capabilities possible. From creating counter improvised explosive device systems, to building responsive small satellites, to blazing the trail in laser research; our scientists and engineers are tireless in the pursuit of solutions.

This doesn't mean we have all the answers. We may not even have all the questions – this is where you come in. As Army Space Cadre, you are a part of the process – by helping us identify needs and by providing feedback. It is vital that we hear from you – what works and what doesn't work. We also want to assist in finding the answers to some of your challenges. You serve at the tip of the spear providing support to our Warfighters.

I want you to know that there is reachback capability to our experts in the labs. If we don't have the answers, we can certainly find the right people or organizations that do have the right answers. I invite you to communicate with our organization. For RDA assistance with Space and High Altitude Issues: Dr. Rodney Robertson: (256) 955-3520; for Battlefield Integration Issues: Debra Wymer: (256) 955-1416; and for Acquisition Issues: Cathy Dickens: (256) 955-3410.

We are all part of a team of teams dedicated to providing support to the Warfighter. I hope you took advantage of the information being shared at the symposium, but remember that you have just as much to add as you have to gain. I look forward to hearing from you.

Biography

Dr. Steven L. Messervy is the Deputy to the Commander for Research, Development and Acquisition at the U.S. Army Space and Missile Defense Command/Army Forces Strategic Command located at Redstone Arsenal, Ala. As the deputy to the commander, Dr. Messervy manages USASMDC/ARSTRAT's RD&A activities and is responsible for overseeing all materiel development functions, test and evaluation activities, and support.

Since 2005, Messervy served as the general manager of the North Atlantic Treaty Organization Medium Extended Air Defense System Management Agency (NAMEADSMA) in Huntsville, Ala. He has also served as the deputy Program Executive Officer (PEO) for Missiles and Space, Redstone Arsenal, Ala.

Messervy has more than 28 years experience in the research, development, and acquisition business which includes aviation, tactical missile and unmanned aerial vehicle systems, national and theater missile defense, Space, strategic defense laser, missile, and other technology programs.

He has a doctorate degree in systems engineering and operations research. He is a graduate of the Defense Systems Management College Program Manager's Course and the Army War College. He was named a Sloan Fellow and completed a master's degree from the Massachusetts Institute of Technology. He is also a colonel in the U.S. Army Reserve.

"SECURE THE HIGH G

COL Bruce Smith

Director
Directorate of Combat Development
Future Warfare Center

The Best Space Job in the Army

In this edition of the Army Space Journal we are focusing on the best Space jobs in the Army. You will read about various individuals who are serving in different commands and organizations within our Army providing and advancing Space capabilities in a variety of jobs. The jobs are unique, and the required skill sets of the individual positions vary also. Yet each job is vital to developing, integrating and providing Space-based capabilities to the Army and most importantly to the Solider. As articles in this journal have stated before on many occasions, the Army is not just a Space-enabled force, rather it is a Space-dependent force. The Army today cannot operate without Space-based communications, intelligence, surveillance and reconnaissance, or positioning, navigation and timing systems. The Army requires a highly trained Space Cadre, with a broad skill set, to use and exploit the potential of Space to the fullest extent possible.

While many FA40s may argue that the Director of Combat Development is not the best Space job in the Army, I would have to disagree with them. It is certainly not the most exciting or glamorous Space job, and it often is frustrating because progress is often slow and constrained by a rigid bureaucratic processes. However; that being said, it is one of the best jobs in the Army because combat and force development activities determine how the Army will be organized, manned, trained, equipped, and operate in the future. The Directorate of Combat Development is not just looking at today's force, and working to ensure it has what it needs, but is looking at the future force and trying to determine what threats it will have to counter and

"Space capabilities and systems cross proponency … boundaries. … the Signal Center is responsible for developing satellite communication requirements and systems; the Military Intelligence Center has responsibility for Space-based ISR systems; while the CIO-G6 serves as the lead for Position, Navigation and Timing."

what capabilities it will need to operate, survive and win on future battlefields. It is intellectually challenging work and is never dull as new issues and problems surface all the time that need to be addressed and solved.

The Directorate of Combat Development also offers unique challenges in that it forces directors, and in fact every Directorate member, to work with a variety of personnel from organizations across the Army as well as the Department of Defense. Space capabilities and systems cross proponency and Service boundaries. Within the Army, the Signal Center is responsible for developing satellite communication requirements and systems; the Military Intelligence Center has responsibility for Space-based ISR systems; while the CIO-G6 serves as the lead for Position, Navigation and Timing. Of course Air Force Space and the Space and Missile Center are responsible for developing most of the requirements and building the on-orbit systems. The Directorate of Combat Development works closely with each of these organizations to ensure Army operational requirements are addressed and met in a coordinated manner. At the same time the Directorate works with U.S. Training and Doctrine Command to develop the training and doctrine, as well as the force structure, needed to support our Space forces' current and future operations. The Directorate cannot succeed by itself, but must work in a collaborative, and often competitive, environment to advance Army Space. Consequently, the director must negotiate, cajole, and remain flexible in order to forge and advance these partnerships.

The Directorate of Combat Development is part of the Future Warfare Center and is comprised of over sixty personnel, uniformed military, Department of the Army Civilians and contractors who are located in three states. The Directorate is organized into four divisions - Space Capabilities, Missile Defense Capabilities, Force Development, and Training and Doctrine. Each division has a set of unique responsibilities and works with specific organizations and processes; however their work is integrated through U.S. Training and Doctrine Command's DOTMLPF construct. DOTMLPF is the acronym for doctrine, organization, training, leadership and education, materiel, personnel and facilities. DOTMLPF provides the framework to assess an operational issue and develop a solution for the operating force. The Directorate of Combat Development's DOTMLPF related work is guided by numerous U.S. Training and Doctrine Command and Headquarters, Department of Army processes that complicate our work. Directorate personnel need to be both Space subject matter experts and have a thorough working knowledge of how the Army's combat development, force development, funding and acquisition processes function. The director must understand the Army's strategic environment, in terms of operational priorities and funding constraints as the Directorate of Combat Development develops and advocates for Space capabilities.

The most enjoyable part of being the director is the people I get to work with. The Directorate workforce whether military, civilian, or contract support personnel, is simply outstanding. They are a highly dedicated and professional group of individuals who consistently exceed my every expectation. They understand the importance of what they do and how their actions directly relate to the operational capabilities of the American Soldier, and the welfare of our nation. They are thoughtful, proactive and unafraid to take the initiative and fight for what is right. As a group they model our Army's values day in and day out. They make coming to work a privilege.

I will close by restating what I began with, "I have the best Space job in the Army." I highly encourage FA40s to seek an assignment in the Directorate of Combat Development. You will find the work challenging and personally rewarding. Most importantly you will be making a tangible contribution to our Army by developing and bring Space capabilities to our forces.

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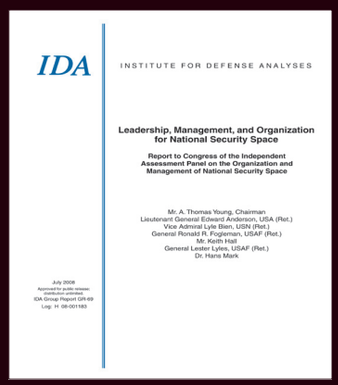
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Leadership, Management, and Organization for National Security Space

Report to Congress of the Independent Assessment Panel on the Organization and Management of National Security Space

Mr. A. Thomas Young, Chairman
Lieutenant General Edward Anderson, USA (Ret.)
Vice Admiral Lyle Bien, USN (Ret.)
General Ronald R. Fogleman, USAF (Ret.)
Mr. Keith Hall
General Lester Lyles, USAF (Ret.)
Dr. Hans Mark

July 2008
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IDA Group Report GR-09
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ALLARD COMMISSION

EXECUTIVE SUMMARY OF INDEPENDENT ASSESSMENT PANEL ON THE ORGANIZATION AND MANAGEMENT OF NATIONAL SECURITY SPACE

The Independent Assessment Panel (IAP) was chartered to review and assess the DoD management and organization of National Security in Space and make appropriate recommendations to strengthen the U.S. position. The panel members are unanimous in our conviction that significant improvements in National Security Space (NSS) leadership, management, and organization are imperative to maintain U.S. Space preeminence and avert the loss of the U.S. competitive national security advantage. NSS inadequacies are unacceptable today and are likely to grow, but leadership can reverse this trend.

Scope of National Security Space

The National Security Space enterprise comprises a wide range of government and non-government organizations responsible for providing and operating Space-based capabilities serving both military and Intelligence Community needs.

- Military Space responsibilities are shared among many DoD components including the Office of the Secretary of Defense, Joint Staff, Defense Agencies, Combatant Commands, the Military Services and Defense Advanced Research Projects Agency (DARPA) activities involving Space-based capabilities for communications, early warning, weather, surveillance, Space control, and precision navigation and timing as well as launch, Space ranges, and research and development (R&D).
- Intelligence Space responsibilities include reconnaissance and related satellite systems and operations.
- The National Oceanic and Atmospheric Administration (NOAA) responsibilities include weather and remote sensing.

LTG Ed Anderson was a member of the 2008 Independent Assessment Panel on the Organization and Management of National Security Space *(also known as the Allard Commission). He is currently serving as a Principal in Booz Allen Hamilton.*

To view the full report, go to the ASJ online:
http://www.smdc-armyforces.army.mil/ASJ/

"Space capabilities underpin U.S. economic, scientific, and military leadership. The Space enterprise is embedded in the fabric of our nation's economy, providing technological leadership and sustainment of the industrial base."

- Commercial Space forms the industrial base supporting government Space programs as well as providing commercial services in the form of satellite communications and remote sensing systems.
- The National Aeronautics and Space Administration (NASA) is primarily responsible for civil Space activities; however, NASA's overall technology efforts and project management support contribute significantly to NSS activities.
- Other organizations with Space responsibilities include the Department of Energy and the National Labs, the Department of Agriculture (U.S. Geological Survey and LANDSAT), the Department of Homeland Security (National Applications Office), the National Science Foundation (Space Weather), Department of State, Department of Transportation, National Security Council, Office of Science and Technology Policy, Federal Communications Commission, and the satellite systems and activities of our allies.

The panel met with the heads [of many] of the major organizations responsible for National Security Space, along with numerous government, industry, and independent experts. The findings and recommendations reflect a widespread sense among informed experts that urgent and fundamental change is needed.

U.S. Leadership in Space is a Vital National Advantage

Space capabilities underpin U.S. economic, scientific, and military leadership. The Space enterprise is embedded in the fabric of our nation's economy, providing technological leadership and sustainment of the industrial base. To cite but one example, the Global Positioning System (GPS) is the world standard for precision navigation and timing.

Global awareness provided from Space provides the ability to effectively plan for and respond to such critical national security requirements as intelligence on the military capabilities of potential adversaries, intelligence on Weapons of Mass Destruction (WMD) program proliferation, homeland security, and missile warning and defense. Military strategy, operations, and tactics are predicated upon the availability of Space capabilities. The military use of Space-based capabilities is becoming increasingly sophisticated, and their use in Operation Enduring Freedom and Operation Iraqi Freedom is pervasive.

Significant Developments since the 2001 Space Commission

The Commission to Assess United States National Security Space Management and Organization (referred to in this report as the 2001 Space Commission) alerted us to growing threats to our NSS assets. Since then, U.S. dependency on those assets has grown while comparatively little has been achieved to make them more secure. Further, a host of world and national events have "changed the landscape" in which NSS must operate. Several threat-related developments have occurred: the September 11, 2001 (9/11), attacks on the U.S. homeland and the resultant Global War on Terror; Operations Enduring Freedom and Iraqi Freedom; the rapid emergence of China as a Space power, to include substantial development in the areas of anti-satellite weapons (ASAT) and anticyber technologies; as well as the growing potential for conflict in Space.

Several organizational developments have also occurred since 2001: (1) U.S. Space Command was decommissioned and Space responsibilities were assigned to U.S. Strategic Command (USSTRATCOM), (2) Northern Command, Director of National Intelligence, and the Department of Homeland Security were established, and (3) the DoD Executive Agent for Space was relieved of authority as Director, National Reconnaissance Office (NRO).

There have also been a number of acquisition-related developments: (1) acquisition delays, cost overruns, and performance shortfalls have become routine; (2) growth in international Space

design and operation — due in large part to International Traffic in Arms Regulation (ITAR) regulations — has leveled the playing field, now allowing many nations to compete favorably with the United States in Space; and (3) the need for the United States to sustain legacy Space systems and acquisition organizations has sacrificed agility common to potential adversaries who can buy and operate that which is most modern and tailored to rapidly changing user needs.

Many of these actions are favorable to the management and organization of NSS. But many others represent a family of challenges that require firm and prompt action if the United States is to sustain a technological lead that enhances national security.

Findings, Observations and Recommendations

The Panel observed many pockets of excellence and positive trends in the course of its study. Among these, we note the long series of successful Space launches, the growing employment and capability of Space-based commercial communications and imagery, a clearer and stronger focus of USSTRATCOM on Space, support being provided everyday to our national leadership and warfighters, and tireless efforts by those implementing our NSS programs to achieve mission success. There are many dedicated leaders, managers, and personnel who must be credited for their dedication and good work across the NSS enterprise.

Nevertheless, much of our success was realized with an NSS management and organization that was significantly different from what we observe today.

NSS performance shortfalls, vulnerabilities, and potential gaps in capabilities are emerging, and the future is of grave concern. Many of our capabilities are thin and fragile. Important Space-based capabilities are provided today by on-orbit assets that are well beyond their design lives, while many new generation satellites designed to replace them have experienced unacceptable cost and schedule growth, technical performance problems and cancellations.

Many of the necessary actions to address these adverse trends, such as those identified by the 2001 Space Commission and the 2003 Defense Science Board Study on Space Acquisition, have not been taken. Indeed, recent DoD and Intelligence Community reorganizations have further diffused responsibilities for Space. Leadership for strategy, budgets, requirements, and acquisition across NSS is fragmented, resulting in an absence of clear accountability and authority — "no one's in charge." Additionally, career management practices are often counterproductive, and the limited technical talent pool is insufficient.

Fundamental change is needed to correct these problems. The panel advocates top-to-bottom reform to bring stronger leadership and improved management for National Security Space. This entails actions in four areas: (1) National Space Strategy, (2) Leadership, (3) Organization and Management, and (4) government expertise for developing and acquiring Space systems.

National Space Strategy

Presidential leadership is needed to establish a common focus on Space priorities across the organizations responsible for National Security Space. Important new programs such as National Polar-orbiting Operational Environmental Satellite System (NPOESS) and the recently cancelled Space Radar program have been hamstrung by the inability to resolve interagency differences in setting achievable requirements and resource priorities. Capabilities for Space Situational Awareness and Space Control will require collaboration among several federal agencies. A national strategy with an oversight mechanism is needed to unify efforts, set priorities, establish roles and responsibilities, and adjudicate issues.

Recommendation 1

The President should establish and lead the execution of a National Space Strategy that assures U.S. Space preeminence, integrates the various participants, establishes lines of authority and accountability, and delineates priorities. To implement the strategy, the President should reestablish the National Space Council, chaired by the National Security Advisor, with the authority to assign roles and responsibilities, and to adjudicate disputes over requirements and resources.

Leadership

Within the DoD and Intelligence communities, the leadership for National Security Space is currently fragmented and unfocused. Authorities and responsibilities are spread across numerous organizations, including many within the Office of the Secretary of Defense (OSD) [Under Secretary of Defense (USD)/Intelligence; USD/Acquisition, Technology, and Logistics; USD/Policy; and the Assistant Secretary of Defense (ASD)/Networks & Information Integration], USAF, USN, USA, USMC, DARPA, MDA, and NRO. Although the Secretary of the Air Force is the DoD Executive Agent for Space, its authorities have been diminished from those envisioned by the 2001 Space Commission. Moreover, as perceived by many, its stewardship of Space does not enjoy the same priority as other traditional Air Force missions. The customers who use Space capabilities observe that there is no responsible official who looks across all the available resources and capabilities to seek the best solution, whether from the military, intelligence, civilian, or commercial sector. This represents a critical need.

A strong executive is needed to integrate customer capability needs, set resource priorities, evaluate alternatives, develop and advocate investment plans and programs, and formulate and execute budgets for National Security Space. This executive must be responsive to DoD, the Intelligence Community, and other customers for Space capabilities, and must serve as a focal point for coordinating efforts across the federal government.

Recommendation 2

Establish a National Security Space Authority (NSSA).The Director of NSSA should be assigned the rank of Under

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Secretary of Defense for Space and also serve as Deputy DNI for Space, reporting to the Secretary of Defense and the Director of National Intelligence. [NSSA] will be the Executive Agent for Space with sole authority, responsibility, and accountability for the planning and execution of the NSS program, including acquisition. Key functions will be defining and formulating the Major Force Program-12 Budget[1] and serving as the focal point for interagency coordination on NSS matters. Analytical and technical support from a National Security Space Office-like organization augmented with Intelligence Community expertise will be required to effectively execute this responsibility.

Organization and Management for Providing NSS Capabilities

There are insufficient numbers of experienced Space acquisition personnel to execute the responsibilities of the Space and Missile Systems Center (SMC) and the National Reconnaissance Office (NRO). Both organizations suffer from the long-term ill effects of the reductions in government technical personnel made during the 1990s, and neither has instituted necessary career development and management practices. Strengthened management focus is needed to identify, develop, assign, and promote acquisition personnel who are "steeped in Space."

Lack of requirements rigor, technical performance problems, cost growth, and schedule delays have plagued U.S. Space programs. Programs such as the Future Imagery Architecture, Transformational Communications Satellite System (TSAT), and Space Radar exemplify the failures in existing leadership and management practices to define, fund, and execute new satellite programs. Strong management is needed to implement proven acquisition practices. This will require reinvigorating government capabilities for systems analysis, costing, and budgeting in order to define more realistic programs. Throughout the NSS enterprise, improved processes are needed to ensure that requirements are consistent with available resources. Continuity of key personnel is essential for program success.

At the same time, the traditional focus of the NRO on innovation has been diverted by the need to keep aging on-orbit assets operating. The needed focus on innovation can be restored by rebalancing sustainment, operations, and routine production tasks within a unified organization.

Recommendation 3

Create a National Security Space Organization (NSSO). Assign to it the functions of the NRO, the Air Force SMC, the Air Force Research Laboratories Space Vehicles Directorate, the operational functions of the of Air Force Space Command (AFSPC), and Army and Navy organizations now providing Space capability. The merged organization will report to NSSA for policy, requirements, and acquisition and AFSPC for organization, training, and equipping responsibilities. Spacecraft command, control, and data acquisition operations as well as launch operations will be NSSO responsibilities.

Recommendation 4

Change [DOD] and IC human resource management policies for Space acquisition professionals in order to emphasize technical competence, experience and continuity. Establish a career education, training, and experience path for the development of engineers and managers who are steeped in Space. Establish as the norm that Space project management personnel be in a given position for sufficient time to maximize project success — four years or more — without adverse effect upon an individual's career. Support should be given to the current Space Cadre management and training program being implemented by the Services, as exemplified by the USAF through [AFSPC] and Air Education and Training Command.

Concluding Remarks

The panel believes that a major top-to-bottom overhaul is needed to restore the vitality of National Security Space, and regain and sustain the competitive advantages afforded the United States by our Space programs. The resulting organization would foster greater unity of effort by establishing a strategy framework at the national level, consolidating authority in the National Security Space Authority, and integrating the organization and management of Space capability providers in the National Security Space Organization. If structured as envisioned, this unified leadership and management structure for National Security Space would better serve the needs of DoD, the Intelligence Community, and other customers than does the system in place today. This call to action has the highest level of urgency.

Footnotes

[1] The FY 2008 Authorization Act (Sect 8111) directs DoD to establish a Major Force program (MFP-12) for Space, and designate an OSD official to provide overall supervision of the preparation and justification of Program recommendations and budget proposals to be included in MFP-12.

AN INSIDE LOOK AT THE ALLARD COMMISSION…

AND THAT'S THE WAY IT WAS

BY SHARON L. HARTMAN
ASJ SENIOR EDITOR
PHOTOS BY DJ MONTOYA

In July 2008, a congressionally directed Independent Assessment Panel, also known as the Allard Commission, presented to Congress their report on the Organization and Management of National Security Space. Retired Army LTG Ed Anderson served as a member of the panel and agreed to sit down with Army Space Journal's Sharon Hartman and Director, Directorate for Combat Development, COL Bruce Smith to discuss the role he played in the commission, as well as key points of the report. The following transcription of the interview has been edited for clarity and brevity.

ASJ – Can you briefly explain the background to the Allard Commission - who convened it, why was it convened and what was its specific mission?

Anderson – It was really done at congressional direction. Congress directed the Department of Defense to conduct an independent review of the management and organization of National Security Space. Our task was look at the management and organization of National Security Space, but it was also to take a look at how important Space is to the Security of the United States. We were then tasked to take a look at the Space Acquisition Corps within the Department of Defense and whether or not that was adequate, and then make any recommenda-

Retired Army LTG Ed Anderson

tions on interagency coordination as to whether there was a need to improve it and, if so, how it could be improved. We were also tasked with providing recommendations on a number of different issues and we made recommendations on each and every issue.

ASJ – How did you approach it?

Anderson – We basically broke the report down into observations, findings and recommendations. These observations were for the most part in many cases statements of the obvious, but they were more than just statements, and they were based on what we heard. We did not go into this with any kind of a preconceived idea as to what the situation was and what the answers were going to be. We tried to be very open-minded about this, and we tried very hard to go across the spectrum of stakeholders that were out there in terms of gathering this information, as well as looking at earlier reports to include the Rumsfeld report and others. We talked to folks who had been in the key positions or who are currently in the key positions. We talked to folks who operated at the strategic level, as well as down to the tactical level. We talked to a Brigade executive officer from the 3rd Brigade Combat Team out of the 4th Infantry Division, who had just come back from Iraq because we wanted to get the warfighter's view on this thing.

ASJ – What did you consider was the most important issue facing the National Security Space community?

Anderson – After everything we had looked at and everybody that we had listened to, the commission uniformly felt as though the leadership of the United States and Space is in very serious jeopardy, and something needs to be done.

ASJ – That's a pretty sobering statement.

Anderson – It is. Obviously we hoped to get some ideas on what needs to be done. The important thing we realized was it can be fixed, but it is going to have to be from the top down. It just can't be done from the bottom up. Just as important, it needs a sense of urgency. We've got to address it now, and somebody needs to be put in charge of doing it. We weren't really trying to say that the sky is falling ... yet. But, it could be if we don't do something.

I think everybody knows the truth about what I'm about to say, but it bears repeating or emphasis: Space makes our joint warfighters, and consequently our Army, the best in the world. It is an enabler. It's not just Space, but

Space definitely makes us one of the best warfighting organizations in the world. All of us on the commission recognized we need to protect that. We need to stay as the best warfighting force in the world, whatever it takes. That in itself is what kind of underpinned this as we looked at things.

There should be no doubt in anybody's mind that in the context of what I just got done saying about the warfighter, that Space underpins U.S. leadership in not only the military world, but in the technological world and in the economic world.

ASJ – So can you get into more detail about the observations the commission made?

Anderson – The first observation was that there had been significant developments that have occurred in the organization and management of Space and the National Security Space in total since Sept. 11. Sept. 11 was kind of our benchmark because that was when the last Rumsfeld Commission was published.

ASJ – When exactly was the Rumsfeld Commission published?

Anderson – It published the day after Sept. 11. The hearings for it had all gone on prior to that obviously, but the actual report came out the day after the attack. We used that as the start point to try to look at what has changed since then.

ASJ – And what did you all discover has changed?

Anderson – Probably the most obvious thing since then has been the warfighter's use of Space. Operation Enduring Freedom and Operation Iraqi Freedom are just tremendous examples of how our military has really become quite comfortable with using those capabilities, as well as dependent on using those capabilities. It's a different world. We got a taste of things in Operations Desert Shield/Desert Storm as to what Space could do for you, but it wasn't until the current wars that we fully saw how the military and the Army in particular really grasped those capabilities.

There have been a lot of changes in the organization of this country with regard to not just Space but a number of things; the formation of U.S. Northern Command, the Department of Homeland Security, and the Director of National Intelligence, the mission shift to U.S. Strategic Command, changes in responsibilities in the executive agent for Space. The list goes on and on.

The fact is that as much as the environment we were operating in had changed tremendously, the Space

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management process and the organizations have not changed. They are basically the same organization, and in many cases, the same processes that we had back before the cold war. That in and of itself tells you something isn't right here. Something needs to be done.

Another was the fact that National Security Space leadership is absolutely vital to this country.

We were asked to comment on this specifically. National Security Space, not just Space. In other words, the role of National Security Space extends beyond the military and into the rest of the Nation.

ASJ – Can you give an example of how it extends beyond the military?

Anderson – This is only one of many, but GPS was developed as a National Security Space system and it is a National Security Space system, but look at how extensive the use of it is by this country in everything we do. When you get your gas, when you go the bank, go to the ATM, whatever … Space is there, and if it weren't there you wouldn't be able to do what you were doing.

There are a multitude of other examples, but underlying both of those observations is one very important point. A major change has occurred since Sept. 11, and that is that we are now doing everything in a contested environment. It's not that it's going to be a contested environment. It is one today, and it is only going to get worse. So, if we as a nation, and we as a military, are so dependent upon those capabilities, and yet we are so vulnerable, that's not a good equation. Something again has to be done.

So, those were the observations that we had and the most obvious statement there was with regard to the vulnerability. We have grown quite accustomed in the Space community to operate with relative impunity, feeling as though we control it and nobody is going to really challenge us. We feel very comfortable that we can continue to go along the way we are and develop those dependencies.

ASJ – That seems to be a bit dangerous to assume we will not be challenged by our enemies. Would you recommend any changes to Army Space force structure in order to implement the Allard Commission's recommendations?

Anderson – Well, after listening to everybody and making the observations, one of the things that all of us in the commission concluded was the fact that to fix this was going to take bold steps. You just simply could not do it by tweaking at the margin. That is basically what the process is and what we have done or tried to do in the past. We've tried to do just a little bit of shaping here and there, but we've never made major change, and the commission feels as though the time has come for that to happen.

Now some people see that as good news, some people see that as bad news depending on where you sit obviously. One thing that makes it difficult is the fact that when you start talking about bold change, the institution will resist that. Bold change does not come easy in the Department of Defense. You know it, we all know it. Unfortunately if you were to go back and look where we have made bold changes, say the formation of U.S. Northern Command, it is generally driven by some catastrophic event. Part of our message is hopefully we don't wait for that to happen again before we take action. When you consider the vulnerabilities and the possibilities of "Space Pearl Harbor," which was a phrase that was coined by the Rumsfeld Commission, hopefully it won't take something like that to awaken us and cause us to make change. That's how it's been in the past, but we shall see.

ASJ – So, what did the commission discuss next?

Anderson – The commission had four recommendations. The first was we felt as though we needed to have a National Space Strategy. Notice that I said National Space Strategy, not National Security Space Strategy. That's not to say we don't need a National Security Space Strategy. We do and we don't have one, but it should be nested within a National Space Strategy, just like the National

> "... the only way we see it is to form a Space Corps — like the Marine Corps — or form a Department of Space — like the Department of Transportation, Department of Defense — a separate Department of Space."

Military Strategy is basically nested within the nation's National Security Strategy. So there are sub-elements that have to come about as a result of that.

There are folks out there, and we listened to them, who will say, "well, we've got National Space policy and those kinds of National Space regulations and this and that ..." Yes we do, and the commission knew that, but in our mind, that does not replace the National Space Strategy.

ASJ – Can you elaborate a bit more?

Anderson – It's the National Space Strategy where you would be bringing together all of the elements of Space, so it'd be civil, it'd be commercial, it'd be National Security. We would have all of those together where somebody could have the responsibility for determining priorities, eliminating redundancies and giving the way ahead as to where we need to go.

Associated with that, if you're going to have a National Space Strategy, you obviously must put in place some sort of a mechanism that makes it come to realization. After a lot of difficult thought and discussion, we felt that it should reside with the National Security Advisor.

ASJ – Why there?

Anderson – There is a thing in the legislation that I believe is called the National Space Council. The law says that the Vice President should chair the council. It's been in place for a long time. As we have looked at it over the years, the reality has been that it has gone up and down as to the actual implementation and the actually seriousness the administration has placed against this. So in our mind, it just doesn't seem as though it's going to work. You need somebody who has direct access to the President, and the only other person we could think of was the National Security Advisor.

Clearly, we recognize one of the criticisms out there has been the fact that the National Security Advisor has a lot on his or her plate. Yes they do, but they should be able to organize around it and if you're going to be able to do the interagency piece, that's where you have to do it. I was there as a part of the National Security Council when I was the J5. That is the vehicle where everything that is done is done with interagency cooperation. With all of the players represented.

ASJ – Did the commission make any recommendations regarding changes to Space force structure?

Anderson – Yes. That was the second recommendation and it dealt directly with leadership. What we found was that no one's in charge. This is not an idea we went in with, it's what we found. Well, when no one's in charge, everyone thinks they're in charge. What that creates is a situation where you get an awful lot of diffused direction from a multitude of sources and there is no focus. We recognized this was a tremendously ineffective and inefficient way of doing business. In addition to that, the stewardship of National Security Space in the Department of Defense was lacking. This, although unfortunate, was a direct reference to the Air Force because they are the executive agent for Space.

The other thing is the cultural divide that exists between the Intel community and the military Space community read black and white. It's been there for a long time. There has been a lot of effort to try to reconcile that in some way but it has not been very successful. Currently the mechanism is for the Secretary of Defense and the Director for National Intelligence to personally get together and reconcile differences, but as we all know, they're very busy and this is not hot on their plate. Especially not when you've got a couple of wars going on, so this did not work and that situation is still there.

ASJ – Was there anything else in regards to structure?

Anderson – Yes. Another one was the commercial capability. We spoke to some commercial providers as well and the bottom line they came in with was the fact they felt as though they were not part of the team. They were basically a spot commodity out there. When we need additional commercial capability we just buy it

from them as opposed to having them be a part of the process. They want to know what the problems are so they can say, "Here's what we can do to offer solutions." Clearly that's been part of the difficulty. There are a multitude of other things, and obviously as you know, we can get into much greater depth than this if you get into the report itself. What we essentially recommended was the creation of what we called the National Security Space Authority (NSSA). In essence, we believe that would be an Undersecretary of Defense for Space

ASJ – An Undersecretary of Defense for Space?

Anderson – Yes, and for Space only. It would be that undersecretary's total responsibility. They would be dual-hatted as an Undersecretary of Defense as well as a Deputy Director of National Intelligence for Space. That's part of how you get to the black and white integration piece, but a lot more has to happen than that. Nonetheless, it is a way. It's very hard for somebody who was in uniform to recommend giving increased authority to the Office of the Secretary of Defense.

ASJ – Did the commission consider any other organizational alternatives?

Anderson – The only way we could see it is to form a Space Corps — like the Marine Corps — or form a Department of Space — like the Department of Transportation, Department of Defense — a separate Department of Space. Civil or commercial or military Space all together in a single element.

The first option, the Space Corps, we looked at very carefully. We were very close to including that in our report, and the Rumsfeld Commission looked at it too. You may recall there were references made in their report to that.

In the end, just like the Rumsfeld Commission did, we concluded that it was not right for this particular time. But, again, looking at the Marine Corps model, it would be a separate Corps that would be under a secretary and in our view if you were to do it, it would have been under the Secretary of the Air Force. Those were the wiring diagrams that we had. But, there's a huge cost associated with doing that in terms of not just dollar cost but in infrastructure cost, people cost and so on. You've got to make sure you've got good justification for doing that, and if you look at the Marine Corps, over 100,000 personnel now, it's pretty substantial, and the Space Corps is currently about 12,000.

ASJ – Would we need that many? 100,000?

Anderson – No, I'm not trying to say that the trigger for moving to a Space Corps or something like that should be in numbers. That's not necessarily so. If you really look at our Space folks, Army, Navy, Air Force, everybody, and you look at what they contribute to the warfight, it's pretty significant, but they can do it with far fewer people than the Marine Corps. The Marine Corps makes a significant contribution too, but it's because of the nature of what they do that takes a lot of folks. There could be other things that would trigger it as well.

The other thing that I would mention as a person Who was in uniform is that we generally find the leadership and management construct of dual-hatting ineffective. We are wedded to the unity of command. We tried to see if there was some other way by which we might be able to structure this and in our view there was not. It was primarily for bringing this black white Space thing together.

The other part of it is that congress had mandated that there would be what they call Major Force Program 12.

If you're familiar with the major force program, it's just like SOCOM's major force program. In other words, they have the authority to develop, buy and field everything. Congress has directed the Department of Defense to do that for Space. They also specified in the language that it had to be the Office of the Secretary of Defense that had control of it — not a service, meaning not the Air Force. The combination of all of that led us to this National Security Space Authority that would have the responsibility for developing all the priorities, adjudicating arguments about resources, holding organizations and industry accountable for fulfilling the requirements that had been developed by the warfighters, and most importantly, it's a single element. There is one person in charge, so that was the issue with regard to leadership.

ASJ – Shifting gears to the broader issues facing the Space community, were there any major shortfalls the Allard Commission identified with how the U.S. government develops, procures and utilizes Space systems and capabilities?

Anderson – Well that had to do with organization and management, which was our third recommendation. Basically we felt that we needed to consolidate or merge the Space capability providers – NRO and SMC - within the Department of Defense into a single organization. There was a need for separation when the Cold War was still going on before the wall came down. NRO performed some tremendous things that were very important in terms of successfully concluding the Cold War, but that's all behind us. Right now, what you have is a limited amount of talent out there with regard to developing Space capability, and you've got two organizations that are competing for that same limited pool of talent, with the same limited amount of resources, but at the same time they're providing very similar capabilities.

ASJ – As you participated in the commission were there new issues that you were not previously familiar with that you became aware of?

Anderson – Well there was a major finding that was a bit of a surprise to me when we got in there. When looking back at the NRO's performance during the period around Sept. 11, they did not provide a single capability that fulfilled its full potential. It was either failed, shot down or shut down. One particular NRO asset took an extended time to get out there and was way over cost. The track record was just not there.

There was an awful lot of discussion about what we should do about it and how to correct the situation. We do feel as though innovation is really what has made us successful in Space. We wanted to make sure that we were able to try and capture that. We felt the merging of those two organizations should be headed by a service three-star or an equivalent civilian who would answer to Air Force Space Command for organization, training and equipment, but it would be a joint organization, and it would be an interagency organization. We would want to have CIA in there and the other members of the Intel community as well.

ASJ – I imagine that doesn't set well with the NRO or with the SMC for that matter.

Anderson – I haven't heard too much out of SMC, but certainly out of NRO because they felt as though we were attacking them and trying to say we need to get rid of NRO when we're not really trying to say that. What we were saying is merge the two organizations, and we think that can easily be done. But the devil's in the details and certainly we weren't there long enough nor did we have the expertise to be able to get into the how. All we really talked about was the what. The how will have to be left up to the experts to figure out the elements of that.

"I would suggest to our FA40s and our Space folks out there what they really need to do is think out of the box."

ASJ – How about within the Department of Defense?

Anderson – That brings me to our fourth recommendation. The commission felt that both the DoD and the intelligence community human relations folks need to change some of their policies and that's particularly with regard to training the Space Acquisition Corps. We felt as though it was unique enough that it required a special consideration and so one of the recommendations was that they need to form a career field for Space Acquisition folks. The model, although I don't believe we included it in the report, would be just like the Air Force and Army does with their doctors. Their doctors have separate educational requirements, they go to separate promotion boards, and they're in their positions for long periods of time. Continuity was key in terms of successful Space Acquisition Programs that we looked at and yet the Air Force in particular with their Space Acquisition folks tried to make them be part of the Air Force, so they would change positions every two years or so and would have to go to CGSC, the War College and so on. Whether that's all necessary, somebody would have to take a look at it and conclude that.

We also felt as though they needed some sort of an entry level program where you could train people to be Space Acquisition folks as opposed to just sending them to a position and letting them do on the job training to figure things out. The Defense Acquisition University and similar places have programs like that.

Those were our recommendations. They started at the National level. Consolidate leadership and provide an efficient and effective capability provider. We saw a lot of good things out there. Generally where we saw the good things was outside the beltway. Inside the beltway was largely where the problem was as we all know if you've ever lived in or served in Washington, D.C. I'm being a little flippant there but nonetheless that's kind of the situation. We didn't just focus on that as I said. We went out to USASMDC and SMC and U.S. Strategic Command and all kinds of different places to try to get our information.

ASJ – Has Congress or the administration taken any steps to enact any of the Allard commission's recommendations?

Anderson – No. Not that I'm aware of. That doesn't mean it won't. We continue to try to maintain visibility on it, but I think what you have to recognize is the nation has much bigger problems they're working on right now. Most obvious is the economy. Space isn't up to that level yet where it commands that kind of attention. Ultimately it will, and in essence as you look at these recommendations, they are relatively inexpensive. We're not talking about huge bills that would be associated with this. The way we see it is if these things were to be implemented, we would see savings, but at the same time, we would see more capability because we would have somebody there who has the responsibility for leveling the requirements and staying on top of folks to produce. They will have a lot of responsibility. Some would tell you that part of the difficulty too is the fact that for you to have an Undersecretary of Defense, you'd have to get congressional approval. That is true, but we don't think it would be that much of a problem.

We were looking at this from a National Security perspective not a service perspective. Having the benefit of that now and looking at it, for me the tendency is to take a look at the Army and see how we are doing. Ask ourselves is this an opportunity, and in my mind it's a huge opportunity. I would submit to you that it would be inappropriate for the Army to wait for something to happen before they took action. In my mind, because everything is so dynamic right now, this is an opportunity that the Army just simply should not pass up. It's not just the reports that create some of those dynamics, but it's the fact that you have a new administration in there that has come in under the mantle of change. All of those things I think play to that fact. More importantly, I think we owe it to our warfighters. We owe it to those Soldiers, Sailors, Airmen, Marines and Coast Guard out there because they have become very dependent upon these capabilities.

ASJ – Again we come back to change. What would you say to FA40s regarding that?

Anderson – With regard to change by the Army is the fact that in the Space area, we have this tendency to think, "let's see what we get and we'll figure out how we're going to use it," as opposed to being on the front end and saying, "this is what we need." I must confess I was a part of this process myself a decade or so ago, but the focus really needs to be, "let's get it now so that it enhances our warfighting capability." I would suggest to our FA40s and our Space folks out there what they really need to do is think out of the box. Think about what it is that Space can do for the warfighter and help the warfighter understand that and take off with it.

If you were to look at the beginning of the conflicts in Iraq and Afghanistan and where we are now, using the metric of how they are using Space, you would see a tremendous difference. The problem is that it had to be iterated from conflict. That's not the way we should want to do business. We should try to figure out what Space can do for those warfighters and get it in place now so that when they need it, they have it, they know what to do with it and how it can help them be the best warfighters in the world. If these particular recommendations were undertaken, this would help the Army because it's now taken out of a service arena and it's into the Office of the Secretary

of Defense arena. It places a much greater responsibility on the Army. They're going to have to be much more engaged and much more active in the development of requirements and such. That would have to come from the Army and the Army Leadership. It requires a bit of a different mind set for the Army and from the Army leadership on down.

ASJ – What kind of mind set is that?

Anderson – You've heard this said before but I do think it's important: Space used to be basically a strategic tool. It's now a tactical tool. Individual Soldiers are using Space capabilities down on the ground right now. This creates a tension between demands for strategic capability, strategic use and tactical use. That's where the Army has got to get involved in helping to resolve that tension. I think that's one of the reasons why these changes would help is that it takes it up a level. If you are trying to resolve that tension, and we're trying to do it through the Air Force, it won't work. At least experience has shown it'd be very hard to get there. The other thing is that traditionally Space has been viewed in the Army as primarily a J2, G2 and a J6, G6 tool. It's not just that. It's a J3, G3, S3 tool now. We've got to change our mind set and the FA40s are the ones that can lead that charge to change it. These are capabilities that can be employed. USASMDC is moving in that direction. The problem is that it's hard, but they recognize what they need to do, and they're trying to make steps to move in that direction as well. I compliment them for that. There is one major thing folks should keep in the back of their mind. The vulnerability of these systems has to be addressed because we have grown so dependent upon them. When they're not there, we're going to be in really tough times. We've got to do something to make sure they are always there.

USASMDC has just concluded the development of a nanosat. That's a step. That's a movement in the right direction. It's recognition of things that have to be done.

ASJ – Did the Allard Commission examine USSTRATCOM's efforts to make Space acquisitions and operations more responsive to the warfighter through its Operationally Responsive Space initiative?

Anderson – You may have heard me say in the past I just can't figure out why we need to have a separate mechanism, a separate method to provide responsive Space capability. Why can't we take the existing method and change it so that it becomes responsive. If we were to undertake these kinds of changes that we recommended in the report, we can do that. We can build that and we can do away with any of the parochial viewpoints and parochial positions and be much more responsive to the warfighter. That's what it's all about.

People are starting to think differently, not just in the Army but across the board, but it's awfully hard to make large changes in an institution such as the Department of Defense.

ASJ Smith – Before I came to USASMDC, I sat on the Army Staff when we had the virtual MFP 12. It was amazing the fighting that took place within the Army cause we'd sit there and just say virtual MFP 12 and you'd immediately have the G6 go "oh no! This is a communications system. This is a terminal and it's part of my Comms enterprise, so don't you dare pull this over." What does the Army need to do to break down those separate proponents or branch stovepipes to get an enterprise view because obviously the Space enterprise view could break the Comms enterprise if we're not smart on that kind of stuff?

Anderson – Well, you said it and you said it exactly right. We need to be smart with it. In my mind I fully agree with you. Those are the sensitivities and those are the parochialisms that come forward when you start talking about those things because you're talking about resources. The Comms people and the Intel people will say "you're going to take away people out of my branch and make them something else" or something like that. That definitely could be a way, but it's not the only way. In my mind, the only thing they are really telling me is that it will be hard. They're not saying it shouldn't be done. None of the arguments that I've seen say that. The Army has to bite the bullet and take a look at how it can be done. Don't focus on how it cannot be done. Again, it will be hard, and somebody has to take the lead for that. I think USASMDC is moving in that direction. I think it can be done to accommodate the concerns out of all of the branches. But, the basic bottom line has to be what is best for the warfighter. If it doesn't pass that test, then it shouldn't be done. But somebody has to look at it. People are reacting to those kinds of suggestions on the basis of emotion not on the basis of careful thought.

What the Army may want to do is convene some sort of an Army Space Commission much along the lines of the National Security Space Commission of independent folks. I'm not talking about me, I'm talking about anybody. They would come before the Army leadership, and the leadership would be very specific about what is it they want this group to take a look at. Part of it can be that. One of the things that we saw when we first started reviewing things was the fractured nature of Space within the Department of Defense. As I said before, no one's in charge or everyone's in charge. It was all over the place. You had offices who all thought that they were the lead. The Army's much the same.

"The Army and USASMDC in particular have matured that concept in such a way that our FA40s can and do make a difference."

You just described it. The communications, the Intel folks, USASMDC, and so on. Again, the question is whether or not this is the right construct? Maybe, but I'd rather have somebody who has gone through an informed process say if it's right or not, and what it should be or could be, especially in the context of what we've just said here. It almost seems natural that if you've looked at something from a National Security perspective, then the next step should be look at it from an Army perspective. What are the consequences of what has been said and what is this window of opportunity and what can we do to try to improve the way we do business? If you look at the construct that we have for National Security Space and the DoD today, it is the same one we had in the Cold War. It's about the same thing for the Army. Maybe not all the way back to the Cold War but close. Change has happened. Have we changed with it and do we need to change? Change is hard and disruptive, especially when you're in a war. It's a tough time for change.

ASJ Smith – Just to follow up to what you just said, if you take a look at this at the National level, the Army can take a look too, is there anybody that you're aware of at a senior level within the Army who's started to look at this and can say you know we really do need to take a look at how the Army's postured, either organizationally or acquisition wise to further push this capability across and down to the warfighter?

Anderson – Not that I've seen, but we're trying to kick start that process a bit. As I said, USASMDC is number one in getting their own act together. I think then as a result, they will be in a position to carry it up, but there's nothing I've seen at the higher levels of the Army. In other words our staff is not doing anything. One thing that could be a catalyst for this, but I haven't seen a movement in that direction yet, is the enterprise approach that GEN Casey is taking for the Army where he's trying to shed the Army Staff of some responsibilities and push those out to the four-stars for various functional areas. Space would be a very good element of the enterprise that should be pushed down to USASMDC. It's obvious I have a bit of a bias here, but nonetheless I do think that there is a good strong argument for doing that just because of what has happened over the last seven, eight, ten years or so.

In terms of closing, the Army crossed a major threshold when we established the FA40 Corps. We made a major statement for the Army as well as for the Joint community. That was not easy. The Army and USASMDC in particular have matured that concept in such a way that our FA40s can and do make a difference.

I have talked to some of the young folks that are out there who are really enthusiastic about what they're doing and just encourage the Army to be open-minded, be creative. Don't just think in the box, think out of the box. The future of Army Space is really in their hands simply because of what is going on in the world and in the Army. This is both in terms of not just the conflict but transformation within the Army and those kinds of things. This is a tremendous opportunity to be able to make change for the better. I'm not just trying to say make change for change's sake. Make it better. They can do it. We've just got to listen to them. Don't get discouraged if the first time they say it nothing happens. Keep saying it. Keep saying it over and over again and it'll come.

I'm very proud of USASMDC and our Soldiers and all of the folks who are involved in this. I think they are just doing a tremendous job.

Left to right, retired Army LTG Ed Anderson, BG Kurt S. Story and BG Jeffrey A. Horne made remarks as guest speakers during the 2009 Army Space Cadre Symposium.

Peter B. Teets, former Undersecretary of the Air Force and former Director, National Reconnaissance Office also served as a guest speaker at the 2009 Army Space Cadre Symposium.

SPACE CADRE SYMPOSIUM 2009 KEYNOTE SPEAKERS

PHOTOS BY DJ MONTOYA

U.S. Army Space and Missile Defense Command / Army Forces Strategic Command Commanding General, LTG Kevin T. Campbell listens to a question from a symposium attendee.

COL B. Shannon Davis, former Deputy Senior Commander and Chief of Staff, Fort Carson, Colo., addresses attendees during the 2009 Army Space Cadre Symposium.

The 2009 Army Space Cadre Symposium was conducted Aug. 1-7 in Colorado Springs, Colo. The purpose of the symposium was to update Army Space Cadre members and educate them on force improvements and new initiatives at strategic, operational and tactical levels; educate Army Space Operations Officers on their roles, responsibilities and opportunities; provide a forum for Army Space Cadre members to discuss Army Space issues that impact the Army and their community. The weeklong event featured keynote speakers highlighted on these pages, as well as numerous program speakers from various Space backgrounds. The following pages contain executive summaries on the topics of discussion from each of the program speakers.

MAJ Philip Speth addresses the attendees during the 2009 Army Space Cadre Symposium in Colorado Springs, Colo. *Photo by DJ Montoya, 1st Space Brigade*

Charles Anderson

John Hopkins Program

Applied Physics Laboratory is a University Affiliated Research Center focused on providing core engineering and science capabilities across a broad spectrum of critical Department of Defense mission areas.

The Laboratory currently partners with the Functional Area 40 (FA40) Personnel Proponent Office in providing a unique Training with Industry opportunity to FA40 Space Professionals, allowing them to work with leading science and engineering experts, in areas directly related to Army Space and Missile Defense missions. Recently the Laboratory and U.S. Army Space and Missile Defense Command/Army Forces Strategic Command expanded their formal relationship by establishing an Indefinite Duration Indefinite Quantity contract between the two organizations, thereby establishing the Laboratory as one of USASMDC/ARSTRAT's University Affiliated Research Centers.

The presentation provides insight into Laboratory's current activities directly supporting USASMDC/ARSTRAT, via the new IDIQ relationship, with a focus on understanding how this new partnership benefits the FA40 community. Highlights include the Laboratory's work on USASMDC Battle Lab's Joint Space Tactical Planning Tool, Defense Satellite Communication System and Wideband Global SATCOM Operations Centers, Federally Funded Research and Development Center and University Affiliated Research Center Consortium support to the Operationally Responsive Space office and future efforts centered on cyber, Space protection, Space control, and GPS.

Army Space Cadre Symposium 2009

PROGRAM SPEAKERS

Brad Baehr

JTAGS/OPIR and Scout Space Cadre Portal

The Joint Tactical Ground Station/Overhead Persistent Non-Imaging Infrared experiment focused on net-centricity and explored the ability to bring Partially Processed Overhead Persistent Non-Imaging Infrared Data from a sensor then via SIPRNet to widely distributed warfighters using a simple internet browser. This exciting capability was successfully demonstrated through live events and in exercises Keen Edge 09, Terminal Fury 09, and the U.S. and NATO Coalition Warrior Interoperability Demonstration 09.

The Space and Missile Defense Battle Lab has a unique capability called Scouts. This program consists of a small group of highly qualified individuals with the mission to analyze Army Space, missile defense, high-altitude, information and cyber operations gaps and shortfalls and then assist in the discovery of relevant concepts and solutions. The Scouts Space Cadre Portal is the next step toward providing the Army Space cadre and various Communities of Interest a means to input, share, and collaborate on their ideas, concepts, needs and solutions.

MAJ Mike Belton

Training With Industry

The Training with Industry assignment at the Applied Physics Laboratory at Johns Hopkins University is a great professional development opportunity to receive advanced training while serving. This training opportunity focus was on serving the needs of the warfighter and looking for innovative solutions that can be integrated in the Department of Defense. Certainly, there are opportunities to continue personal educational goals, but there is also a need for valuable military expertise that the Space Operations Officer can serve in multiple roles while gaining the most of the training opportunity. This assignment offers a wide range of mission areas to develop a training and service portfolio. There are opportunities in both civilian and military Space programs. Some of the opportunities include Air and Missile Defense, National Security Space, Civilian Space, Science and Technology, Precision Engagement, Strategic Systems, Homeland Protection, Biomedicine, Undersea Warfare, Warfare Analysis, and Infocentric Operations.

The primary areas of my assignment were focused on Counter-IED, Operationally Responsive Space, and COPOPS development for Satellite Ground Station development. Additional tasks consisted of previewing military Space documentation by providing subject matter expertise as a Space Operations Officer. Counter IED focus is on signature efforts that are multi-faceted finding roots in the arenas of physical sciences, human behavioral analysis, and systems networking. These efforts are designed to enhance IED defeat efforts. Operationally Responsive Space efforts work is focused on the development of a rapid integration facility at Kirtland Air Force Base and development of Systems Engineering Plans for three satellite spacecraft; ORSat-1, PnPSat-1, and TacSat-5. Each officer assigned to the Applied Physics Lab will have the opportunity to tailor their portfolio to serve in a capacity that interests them. This opportunity is very challenging when you integrate yourself with Applied Physics Lab's greatest minds, to tackle the hardest problem sets, and address our nation's future capability needs. This briefing will discuss these related programs and the overall opportunities that an FA40 can take advantage of if assigned to this Training with Industry assignment.

MAJ Don Brooks

Joint Navigation Warfare Center

The mission of the Joint Navigation Warfare Center is to integrate Navigation Warfare across the Department of Defense and to operationalize it for the warfighter. Collateral missions include a core interagency framework to coordinate, conduct, and report on Navigation Warfare testing and integration; identify and develop mitigation strategies and tactics, techniques and procedures for position, navigation and timing based vulnerabilities. Additionally, the Joint Navigation Warfare Center conducts Navigation Warfare field tests of U.S. and coalition systems and equipment and develops Navigation Warfare Electronic Attack, Electronic Warfare Support and Electronic Protection technology prototypes; and advises decision-makers on significant Navigation Warfare issues.

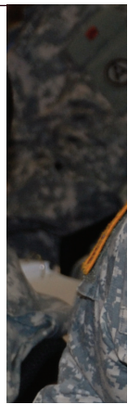
The Joint Navigation Warfare Center Warfighter Support Team's main effort in accordance with U.S. Strategic Command OPDIR 08-003 is to provide warfighter support to Combatant Commands on Navigation Warfare issues, capabilities and vulnerabilities of equipment and missions. The Center also assists the warfighter in developing effective Navigation Warfare tactics, techniques and procedures and mitigations to maintain and/or regain mission effectiveness against current NAVWAR threats. Additionally, the Center solicits warfighter input to test events and functions as a Navigation Warfare consultant to warfighters in operational planning and issue resolution.

As the Space Based portion of GPS becomes a taskable, offensive and defensive weapon system in support of operations, it is essential for the Joint Navigation Warfare Center to carry the Navigation Warfare concept forward to the warfighter. This brief will provide an overview of the Joint Navigation Warfare Center organization, GPS Threats, and Mitigations in a GPS jamming environment.

Dave Carrithers

Future Warfare Center Battle Lab

The U.S. Army is currently engaged in the update of the Army's Capstone Concept approved in 2005. This update is required due to lessons learned in past concepts and the Chief of Staff Army's direction to define The Army of the 21st Century: A Balanced Army for a Balanced Strategy. The new Army Capstone Concept: The Army in Unified Action will enable U.S. Army Space and Missile Defense Command/Army Forces Strategic Command to define the Space and missile defense capabilities required to support this new concept. The Space and Missile Defense Battle Lab is a member of the writing team for this Capstone Concept and has conducted several key wargaming seminars that have contributed to its development. Several events are also planned for Fiscal year 2010 that will support the Army Unified Quest Seminar Wargame. Space Support Elements are a critical part of the Army Service Components, Corps and Divisions. The SMD Battle Lab has participated in critical design reviews of each of these organizations during the past year to ensure this capability was retained in each structure. The SMD Battle Lab also is supporting several Joint Capability Technology Demonstrations that will provide the critical capability to the Army to reduce its reliance on Space, and enhance the communications and intelligence, surveillance and reconnaissance networks. The High Altitude-Enabled assessment was conducted by the Space and Missile Defense Battle Lab and approved by the Senior Army Space Council in July 2009. Key efforts to enhance Joint Friendly Force Tracking and Missile Defense Early Warning have also been successful this year. Finally, the Space and Missile Defense Battle Lab has initiated a Space Warfighting Forum Web site to increase dialogue with Space elements in the field so that requests for support and capability can be addressed across the Army.



MAJ Sean D. Duncan

WSOC Modernization

Through fiscal year 2014, four Wideband Satellite Communications Operations Centers are undergoing modernization. Delta Company, in particular, is also moving from California to Hawaii into a new Wideband Satellite Communications Operation Center facility currently under construction. This move, in conjunction with the new facility, will greatly enhance U.S. Army Space and Missile Defense Command/Army Forces Strategic Command's capability to effectively manage communications capabilities. Satellite control infrastructure continuously operates near maximum capacity; no one Wideband Satellite Communication Operations Center can be out of service for an extended period of time. Therefore, key to the modernization plan is the delicate balance of issues to maintain uninterrupted operations while simultaneously taking care of Soldiers and Families.

MAJ Darin Eades

Training With Industry

Training with Industry at Lockheed Martin provides a unique opportunity to see and participate in the industrial world while still serving on active duty. The advantage of this is that, while much of the contractor world understands the way the military works (normally by having been there) not that many military members know how the contractor world works. Exposure to how industry fits into the Joint Capabilities Integration Development System process can lead the Army and Army Space in particular to make better, more definable requirements that can result in viable solutions that answer the real needs of the end user.

Lockheed Martin in the Denver and Colorado Springs area works in the Defense, Intelligence, and Civil lines of business areas of the greater Lockheed Martin Corporation. I have worked on developmental and Operations and Maintenance contracts as well as on a proposal team responding to a government Request for Proposals (a.k.a. government acquisitions.)

One of the greatest benefits to Lockheed Martin and its employees has been their day-to-day interaction with me and the real world knowledge I brought to their programs. Countless times I've been asked how a certain piece of information or a product is really used out there in the world and my responses have been used to make products or processes better. Having me

COL William Whitney, deputy director, USASMDC FWC and retired BG Steve Ferrell of Scitor Corporation take a moment to gather their thoughts. *Photo by DJ Montoya, 1st Space Brigade*

"embedded" inside the company wearing their uniform (khakis, collared shirts, and an LM badge) has removed the perception of me being "the customer" and has allowed for more candid and open conversations.

COL Jeffrey Farnsworth

1st Space Brigade

The Army's only Space Brigade provides forces and conducts operations that bridge across the Strategic, Operational and Tactical levels. This requires a different paradigm than is typically thought of for a Brigade in order to effectively organize, train, equip, and employ the Brigade's forces. There are a number of initiatives that the entire Space community will benefit from that we will cover at the symposium. These include efforts to enhance planning and integration with Army level Space Support Elements, ensuring Space Support Teams come fully enabled with the latest expertise and special access skills to fully support traditional Space functions and special activities. The Brigade has implemented its own version of the Army Force Generation and Reset models to sustain a maximum level of deployable Space forces for a given theater. We are also breaking new ground with the latest in tactics, techniques, procedures and integration of new capabilities to enhance Space situational awareness, interference characterization and geolocation, ways to provide more commercial imagery faster, and techniques to optimize the Wideband Global System to enable Space forces. We are integrating more and more officers with Space Support Element experience into the Brigade and this is a boon to our culture and capabilities. We are also ensuring those with Brigade experience get out into the rest of the force with their follow on assignments as soon as they are eligible. Finally, we are examining alternative employment concepts for Space forces and supporting experiments that will bring much needed operational enhancements to the Space Professional's portfolio. We welcome any insights from the field and look forward to an informative and productive dialogue at this year's symposium.

Kirk C. Foeller

Operationally Responsive Space

Operationally Responsive Space is a Department of Defense program focused on rapid improvements for Space support to the Warfighter. Based upon three "tiers," Operationally Responsive Space will quickly ascertain Warfighter urgent Space needs and field workable solutions. In concert with the Joint program, the Future Warfare Center is focusing efforts on Tier I needs – solutions in a matter of days and weeks. Using the Doctrine, Organizations, Training, Leader Development, Materiel, Personnel and Facilities framework, Future Warfare Center is proposing a "hotline" for Space professionals to address urgent Space needs that require rapid resolution. Based upon U.S. Special Operations Command's rapid acquisition processes, Future Warfare Center will address urgent Space needs and develop workable solutions to those needs or if necessary, coordinate with other Operationally Responsive Space-supporting agencies for solutions. The proposed Future Warfare Center process will ensure Army Tier I Space needs are aggressively managed and resolved and that the supported Space professional has feedback on the status of their urgent need.

MAJ Jeffery C. Kacala

Mobile User Objective System Program

The Mobile User Objective System is the Department of Defense's next generation Ultra-high Frequency Satellite Communications system. The Mobile User Objective System development includes not only design and on-orbit placement of satellites, but development and fielding of an integrated system that includes the System ground sites and the System common air interface. The Mobile User Objective System Program Overview Briefing gives the latest status on the health and availability of legacy Ultra-high Frequency Satellite Communications constellations and a projection of their availability in the future. With that as a starting point, the briefing then moves to the Mobile User Objective System program with a look at the requirements, architecture, status, schedule and terminals. The architecture is

LTC Victoria Miralda, Deputy Director Space Forces, discuss the days agenda with Bob Kyniston.
Photo by DJ Montoya, 1st Space Brigade

based on current 3G cellular telephone technology. As such, Mobile User Objective System users will be able to make point-to-point calls and access the Global Information Grid as current 3G cell phones can today. The briefing will explain these and other benefits to the warfighter and give production updates on the spacecraft, ground sites and waveform.

LTC Mike McKay

JFCC-Space

This presentation provides a brief review of Joint Functional Component Command-SPACE (JFCC-SPACE) mission and organization, and focuses on changes and future developments and will highlight how this joint assignment can provide some unique opportunities. FA40 assignments within the JFCC-SPACE range from current operations in the Joint Space Operations Center to near-term operations in J3 to long-term requirements (six months and out) in J5. There are opportunities to implement systems like the Selective Availability Anti-Spoofing Module and work its transition from Federally Funded Research and Development Center through the force provider (Air Force Space) to JFCC-SPACE and tactical units for operational management. JFCC-SPACE is on the forefront of incorporating new Space systems from across the community, to include Integrated Space Situational Awareness, Space command and control enhancements, and RAIDERS Block 20. JFCC-SPACE also implements new processes. For example, U.S. Strategic Command is changing the overall responsibility for Electromagnetic Imaging resolution from Joint Task Force – Global Network Operations to JFCC-SPACE. JFCC-SPACE deals with burning Congressional/National issues like Collision Avoidance and Commercial and Foreign Entities Space Situational Awareness support/services. For U.S. Strategic Command, JFCC-SPACE will inherit a Commercial and Foreign Entities operational program from the Air Force Space pilot program. JFCC-SPACE provides FA40s many unique challenges working with Department of Defense/Interagency/Allied/ and commercial partners which enhance the more traditional FA40 operational experience.

LTC Victoria Miralda

Current Space Support in Theater

The U.S. Central Command Space Coordinating Authority is responsible for the appropriate provision of Space support to U.S. and Coalition forces. The operational transition in U.S. Central Command is driving a corresponding need for a "reset" of Space support and capabilities in theater. The changing operational environment requires new technology applications along with innovative tactics, techniques and procedures and unprecedented cross-mission area integration. The Director Space Forces briefing will provide updates on the current theater Space posture, emerging requirements and the plan to meet them.

Jerry Pepin

FA40 Initiatives

FA40 Professional Development:
Each year, the Training with Industry program places two FA40 officers in a corporate environment, allowing them to experience the latest technology development processes, industrial operations and organizational structures and cultures.

Advanced Civil Schooling - The FA40 community is allocated six schooling slots per year. Currently, FA40s are at Virginia Tech, Georgia Tech, MIT, Webster University, Naval Post Graduate School and Air Force Institute of Technology.

National Security Space Institute Schools - A 15-day capstone course for Space professional development at the National Security Space Institute in Colorado Springs, Colo.

The FA40 PDO currently manages all Army billets to Space 300. In fiscal year 2010, they will take over the management of Space 200 and the Space Fundamentals Courses.

FA40 Initiatives: In early June 2009, the first FA40 Senior Leader Steering Group meeting was conducted. Here a number of initiatives were presented and direction and concurrence were given on the way ahead.

Greg Piper

Army Space Cadre

The mission of the Army Space Cadre Office is to identify Army Space Cadre members, track positions, personnel and training data and report data and metrics in accordance with Department of Defense directives and guidance. Currently, the Army Space Cadre consists of 296 Space Professional billets

> "We are currently in the processing of coding the approved Space billets on source documents and developing a Space Cadre tracking system for both Soldiers and Civilians."
>
> — Greg Piper
> Army Space cadre

(FA40s) and over 2250 Space Enabler billets (1500 Soldiers and 750 Civilians). These billets are across the Active, Reserve and Guard forces. We are currently in the processing of coding the approved Space billets on source documents and developing a Space Cadre tracking system for both Soldiers and Civilians. Recently, Headquarters Department of Army G1 approved our request to rename and expand the 3Y skill identifier for use with all categories of Soldiers. This will allow us an additional method to track Soldiers with Space experience. We are also working with other services to develop and implement codes for Department of Defense Civilians with Space experience. Additionally, we are the proponent for the awarding of the 3Y skill identifier and the Air Force Space Badge.

Brian Plaisted

AGI Node Support to USASMDC

The U.S. Army Space and Missile Defense Command/Army Forces Strategic Command Advanced Geospatial Intelligence Node has changed in a variety of ways over the last five years. The size of the Node has increased to over 30 personnel and the number of Department of Army Civilians will increase to 16 in 2010. The mission of the Node has expanded to include support for U.S. Northern Command and U.S. Transportation Command as well as its traditional support to USASMDC/ARSTRAT and U.S. Strategic Command. Product types created by the Node have grown from primarily image maps, GIS, and spectral based products to include Synthetic Aperture Radar and thermal products. This will further increase in fiscal year 2010 with the stand up of an Overhead Persistent Infrared cell to support ground forces. But a number of things have not changed. One is the emphasis on providing support to the warfighter. Today that support is provided not only through 1st Space Brigade elements, but also through federated requests received from the 513th Advanced Geospatial Intelligence Node that supports the U.S. Central Command Area of Operations. Another is the Node's emphasis on exploration activities. This includes assessing the utility of commercial radar satellites for military applications and involvement in the TacSat-3 program, exploiting the hyperspectral sensor on board the satellite and providing support to the Space and Missile Defense Battle Lab on the assessment of the tactical utility of the system.

Jules Prendergast

Naval Postgraduate School

There are a variety of opportunities for Space related Degree opportunities at the Naval Postgraduate School. These include a Master of Science in Remote Sensing Intelligence, a Master of Science in Space Systems Operations, and the Space Systems Engineering Program which can lead to a Master of Science in Astronautical Engineering, Electrical or Computer Engineering, Physics, Mechanical Engineering, or Computer Science. Remote Sensing encompasses a variety of technologies to wed multiple scientific and engineering disciplines. Relevant Image Intelligence disciplines incorporated in the Master of Science-Remote Sensing Intelligence include Space Systems, Mathematics, Physics, Information Sciences, Computer Sciences, Operational Sciences, and National Security (Intelligence) Studies. The Space Systems Operations curriculum is designed to provide officers with knowledge of military opportunities and applications in Space. Students are provided instruction about the operation, tasking and employment of Space surveillance, communications, navigation and atmospheric/oceanographic/environmental sensing systems as well as payload design and integration — specifically for the exploitation of Space and Information products. The Space Systems Engineering program provides officers, through graduate education, with a comprehensive scientific and technical knowledge of national security, and military Space systems. This curriculum is designed to equip officers with the theoretical and practical skills required to design and integrate national security and military Space payloads with other spacecraft subsystems. Graduates will be prepared by their education to design, develop and manage the acquisition of Space communications, navigation, surveillance, electronic warfare and environmental sensing systems.

Cadre >> page 42

> "Wideband Global SATCOM will provide critical command and control communications to the Joint and Army warfighters through 2025."
>
> — Peter Stauffer, G6
> USASMDC/ARSTRAT

COL Bruce Smith

Quadrennial Defense Review Space

Congress has directed the Department of Defense to conduct a Space Posture Review. This review is being conducted at a very high level in order to assess if national Space capabilities, organizations and policies are sufficient to meet future challenges. In coordination with COL Schantz from DA G3/5/7, COL Smith will provide an overview of issues being assessed in the Space Posture Review and outline the Army's concerns

Peter Stauffer

Wideband Global SATCOM

U.S. Army Space and Missile Defense Command/Army Forces Strategic Command has been assigned as the Wideband Global SATCOM System Expert since 1999. SATCOM System Expert duties are outlined in Strategic Forces Instruction 714-02 with a focus on all segments of the Wideband Global SATCOM system - Space, terminal, and management and control. The Wideband Global SATCOM briefing for the Space Cadre Symposium will discuss Wideband SATCOM management, planning, and control responsibilities, Wideband Global SATCOM capabilities and status, and Wideband Global SATCOM-2 activation plan. Wideband Global SATCOM system provides a 10 time increase in capabilities and throughput when compared to the legacy system, Defense Satellite Communications System. Wideband Global SATCOM will provide critical command and control communications to the Joint and Army warfighters through 2025.

LtCol Eric Swenson

Air Force Institute of Technology

Graduate Space education at Air Force Institute of Technology consists primarily of three programs: Astronautical Engineering, Space Systems, and Systems Engineering - Space Systems Track. Students, predominantly military officers, can earn either a master's degree or Ph.D. in any of these programs. In the traditional master's program, students enter as a class in September and graduate in 18 months. Currently, AFIT has one Army FA40 officer in our Astronautical Engineering program and another in our Space Systems program. The very first Army student graduate from Air Force Institute of Technology's Astronautical Engineering program completed his master's degree just two years ago.

The Graduate Astronautical Engineering program is dedicated to the engineering fundamentals of design, test, and development of spacecraft, missiles, launch vehicles, and related systems. The Graduate Space Systems program is designed to provide officers with a broad knowledge of Space systems engineering and Space science. Education in the fundamentals of these areas will increase military officers' effectiveness in planning, executing, and evaluating Space systems and operations. The Graduate Systems Engineering – Space Systems Track degree program is focused on educating students on the process by which a customer's needs are satisfied through the conceptualization, design, modeling, testing, implementation, and operation of a working Space system. Students in this program will complete courses in Space physics, surveillance and/or the Space environment, be knowledgeable in the wealth of unclassified and classified Space technologies and systems and apply lessons learned through a sponsored Space-related Capstone project.

MAJ Chris Turner

Advanced Civil Schooling: TINYSCOPE

As a company commander in a Combined Arms Battalion in Iraq, I was able to observe firsthand a gap in the imagery products that were available for mission analysis and planning. The imagery that is currently available to the typical tactical level commander either consists of days or even weeks old satellite or aerial photos or feeds that come from organic Unmanned Aerial Vehicles. The former provides a firm foundation for initial mission planning and the latter is an excellent way to maintain situational awareness during execution. What is missing is in between, a system that can provide current imagery of a potential target without the risk of detection or commitment of organic assets. The TINYSCOPE program at the Naval Postgraduate School is an attempt to provide a reasonable solution.

TINYSCOPE is a tactical imaging nanosatellite that is being developed by graduate students in the Space Systems curriculum at the school. There are currently three Army FA40s participat-

Greg Piper, Deputy Army Space Cadre Office, reviews his notes as he listens to one of the presenters of this year's symposium.

ing in the program to design and build a prototype satellite capable of providing 3m imagery to a tactical user within 30 minutes of a tasking request. The system is being designed utilizing a Cubesat form factor and is expected to be 50cm x 10cm x 10cm, weigh in at under 15kg, and have a per unit cost of approximately $250,000. The project is currently in the preliminary design phase with an engineering design unit expected to be complete by December 2009 and a flight prototype to follow one year later. The objective of the program is to launch the initial satellite in 2011 to confirm that the system is feasible. A subsequent constellation of 63 satellites would provide near-persistent coverage of the earth and would be available for tasking by tactical echelons using a standard secret internet protocol router connection.

LTC Shelley Volkwein

HQDA Space Force Structure

The Space and Ground-based Midcourse Defense Organizational Integrator integrates and synchronizes force management actions from an operational perspective across the Doctrine, Organization, Training, Material, Leader Development, Personnel and Facilities domains. An Organizational Integrator supports the Army G3 Organizational Requirements Determination and Organizational Integration efforts to review its force structure and force modernization initiatives and its plans to adapt that structure and equipment to meet future doctrine and warfighting requirements. This is accomplished by participation in core force management processes including Total Army Analysis, Force Management Review, Force Design Updates, Force Feasibility Review and Force Validation Committees.

This presentation will provide an overview of the Space and Ground-based Midcourse Defense Organizational Integrator's roles and responsibilities with a focus on the impact of Total Army Analysis 12-17 decisions on current and future Space and Ground-based Midcourse Defense force structure, ongoing Force Design Issues, and other force management initiatives that will impact the Space and Ground-based Midcourse Defense force.

Why is Space the Best Job in the Army?

"If I understood the question, 'why Space is the best place to work,' I would tell you this. From my foxhole it is an acknowledgement that you have mastered your military occupation skill as a Soldier. And you have been recognized by that in order to go and do graduate level work that has a very relevant mission set in support to the Warfighter in many different ways throughout all of our services and the other agencies throughout Department of Defense."

CSM Kevin B. McGovern
Former 1st Space Brigade Command Sergeant Major

"We have a real world mission every day 24/7 365 that truly makes a difference, we are not a unit that just comes to work to clean a motor pool. Our Soldier's understand the true meaning of maintenance because their equipment is used every day to provide the blanket of freedom that keeps our Soldiers out of harms way and allows the American public to sleep peacefully each and every night. As other units rotate in and out of harms way and return to home station for R&R our Soldiers perform their war time mission for their entire 3 year tour 24/7 365, going home each and every night with that the feeling of job satisfaction providing that blanket of freedom. I know of no other unit in the Army that provides that feeling."

1SG Steven M. Adams
1st Space Company, 1st Space Battalion, 1st Space Brigade

"Space is the Best Job in the Army primarily because there is very little the Army (or the world) does that does not pass through our Battlespace. It is for that reason, and the fact that we train our personnel to be innovative thinkers and problem solvers that Commander's rely upon Space Officers for expertise and advice. Because our role resides in a Domain (Space) rather than a single Warfighting Function we frequently have more latitude and awareness in our range of technological solutions to complex problems."

LTC SCOTT PARKS
FA40, Chief, G3/Plans/Integrated Missile Defense

"Being involved in the military space business is fresh, new, and always a challenge when discovering new ways to bring a capability to the force. There is satisfaction when members of the military recognize and then implement the unique advantages that space systems bring to a military operation. Most anyone can integrate and synchronize the ground, air, and maritime systems for military operations; however, not many can even fathom the full array of space capabilities let alone bring them to bear in the fight. Realizing success in bringing the full spectrum of systems to the fight provides the military space operator a most excellent sense of accomplishment."

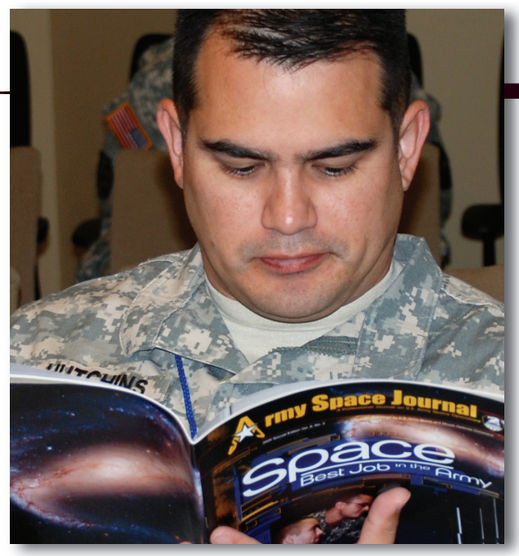
Tom Gray
Education and Training Specialist
Director of Combat Development Training Branch

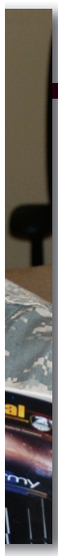
"Take a look at the people we work with! They are extremely competent professionals, motivated to take on some of the most complex challenges we face in the Army! Take a look at the wide range of missions we support; glancing at the SURF we use to monitor our careers, we see a wide range of exciting possibilities in which we can get involved, from missile defense to Space control ... I can't think of any other field that offers as broad of a range of operational opportunities."

MAJ Alexander Braszko Jr.
FA40, Space Operations Officer
HQDA, ODCS, G2

Camaraderie

FA40s from around the world gathered for the 2009 Army Space Cadre Symposium to share ideas, express concerns and get the latest and greatest on technology. Clockwise from top right: Members of the Army Space Cadre listen intently to one of many presentations. Mike Connolly, Army Space Personnel Development Office, kicks off the conference. 1st Space Battalion Commander, J. Dave Price gives animated feedback during a discussion. MAJ Kengi Hutchins, USASMDC/ARSTRAT Future Initiatives peruses the Special Edition Army Space Journal that was printed exclusively for the symposium. Retired Army LTG Ed Anderson, and COL Michael Yowell, USASMDC/ARSTRAT Senior National Guard Advisor give their undivided attention to one of the presenters. (Left to right) 1st Space Brigade Commander, COL Jeffrey Farnsworth, makes a comment under the watchful eyes of COL Patrick Rayermann, Director, Communications Functional Integration Office, National Security Space Office, Michael Connolly, FA40 Personnel Proponency Office and BG Kurt Story, Deputy Commanding General for Operations, USASMDC/ARSTRAT. *Photo by DJ Montoya, 1st Space Brigade PA*






PRICE

Why Does Space Matter ?

"Space is a global operating system that drives the world networks and economies. SATCOM satellites provide the connectivity between civilian and military organizations for communications, internet, and banking operations. The ISR satellites provide military intelligence and weather information for commercial and military use and the GPS satellites provide the accurate timing required to ensure the effective and efficient transfer of spread spectrum information for networks, data links and communications across the globe.

Without the Space segment, the information flows from around the world would be severely restricted and reduce the ability of the warfighter to ensure success in a combat environment. "

Robert "Hawg" Haseloff
Warfighter Support Division
Joint Navigation Warfare Center

"We live in an extremely complex world. The more technologies advance, the more our reliance on Space systems and Space enabled capabilities grows. Existing and potential adversaries recognize our reliance on those Space systems and they understand the advantages Space systems offer us. As a result, they are attempting to level the playing field in their favor by either growing their own Space capabilities or targeting our own. Therefore it is vital we secure and continue to optimize the advantages Space affords us. This is why Space matters."

MAJ Alexander Braszko Jr.
FA40, Space Operations Officer
HQDA, ODCS, G2

"To the common person, the capabilities that space brings to everyday life is much like oxygen; one can't perceive it with the senses, but just try and do anything without it. Warfare without space-based support would set the military back to the days of line of sight communication, large massed forces, and placing more personnel directly into harm's way. We look to the technological advantages that space brings to better engage the enemy with fewer resources, less collateral damage, and more secure operations for the soldier on the battlefield."

Why does space matter? Because it saves lives.

Tom Gray
Education and Training Specialist
Director of Combat Development Training Branch

"FM 3-0 covers the key Battle Command components: Understand, Visualize, Describe and Direct. Warfighting commanders at every level implement these components through implementation of Space capabilities. For example, commanders request and receive up-to-date imagery through the Commercial Imagery Teams (CIT) and Army Space Support Teams (ARSST), giving them the ability to better understand and visualize their ever-changing battlespace. Relying heavily on Satellite Communications (SATCOM), commanders are able to visualize operations utilizing friendly force tracking systems and Unmanned Aerial Systems (UAS), giving them the ability to clearly describe intent to their subordinates and adjacent units. Lastly, a commander's job is to direct; protected SATCOM allows this to happen in adverse and harsh conditions, making the difference when it counts. While many Space capabilities have become "normalized" and occur in the background, they are by no means stagnant, but remain vitally important to the Warfighter.

Space capabilities save lives. I look back at the Vietnam era Soldier and think about the effect current capabilities could have had. The Vietnam Soldier did not have a GPS, he did navigation with a map and protractor; he sometimes got dropped off at the wrong LZ, he sometimes had artillery fall in the wrong place. The Vietnam Soldier did not have robust long-haul communications capable of moving large amounts of voice and data, allowing him to better understand, visualize, describe and direct forces. The Vietnam Soldier did not have advanced missile warning to protect him and give him the notice necessary to save lives. The basic tenets of Warfighting have not changed in the last 30 years – shoot, move, communicate. What has changed is the ability of Space to make these tenets better; to help the Warfighter gain situational awareness through timely terrain and imagery data and friendly force tracking. In this day of "normalized" Space, many of the capabilities are taken for granted, but they nevertheless are vital to the Warfighter and his mission. The ground Warfighter doesn't care how in-flight ballistics affects a Hellfire missile; he cares about it taking out the bunker he's receiving persistent sniper fire from. Likewise, the Warfighter doesn't care about the fact that his communications are traveling thousands of miles through Space, he just wants them to get through. Space professionals often struggle with the question of whether they are truly having an impact; as a Warfighter who, prior to becoming an FA40, has had to unknowingly use Space to accomplish my mission, I say keep up the good fight!"

MAJ Glen R. Hees
G3, Training, Readiness and Exercise Division Chief,
Training and Readiness Branch

SPACE EDUCATION AT THE UNIVERSITY OF TEXAS AT SAN ANTONIO:

ARMY SPACE CADRE

Learn from Southwest Research Institute Scientists

BY MAJ STACY GODSHALL
U.S. TRAINING AND
DOCTRINE COMMAND

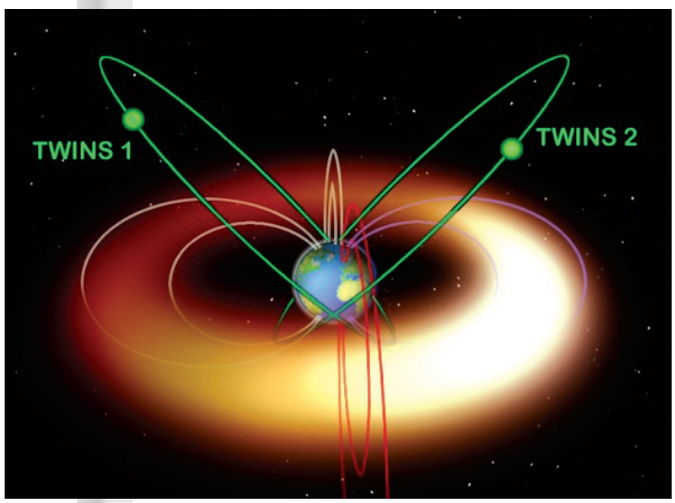


Figure 1
Shows the Two Wide-angle Imaging Neutral atom Spectrometers orbits.
Courtesy of Southwest Research Institute Web site

Best professions utilize education to continue to develop the professionals within an organization over the course of the career. The Army adheres to that practice as manifested by Noncommissioned Officer Education System, Officer training from Basic Officer Leader Course to ILE, branch/career field specific training, and the Advanced Civil Schooling program. Working as a Space Professional or a Space Cadre member as a Space Enabler allows Army personnel to be in the Space Profession which follows this developmental paradigm very well.

Continued education in a variety of venues allows for broadening of knowledge in a career field, such as FA40, or in a subset of skills, such as the 3Y Space Activities Skill Identifier. Therefore, continuing education has a significant role in professional development as indicated by Samuel P. Huntington in his book The Soldier and the State. Education is one of the distinguishing characteristics of a true profession.[1] The Army Space Profession follows this example very well. Space Cadre members increase their knowledge through many educational venues. Three of these offer great opportunities for development in Space operations.

The first is military Space training such as that found in the Space Operations Officer Qualification Course, in the National Security Space Institute, at the Naval Postgraduate School, and at the Air Force Institute of Technology. Of these, National Security Space Institute offers Web based training and short courses such as the Space Fundamentals and Space Operations Courses as well as Space 100, 200, and 300. All of these, at different phases of an Officer's career, enhance the development of an Army Space Cadre member. Naval Postgraduate School offers graduate degrees in Space Systems Engineering and

"Continued Education in a variety of venues allows for broadening of knowledge in a career field, such as FA40, or in a subset of skills, such as the 3Y Space Activities Skill Identifier."

Space Systems Operations as well as a Space Systems Graduate Certificate.[2] These options at Naval Postgraduate School also offer great opportunities to enhance Space cadre professional development. There are also many opportunities for graduate level education and development at civilian institutions, especially in the area of Space science. It is the study of Space science that allows for an in-depth understanding of Space weather and climate. Space weather and climate impact spaced-based assets and our knowledge of this can be used for design purposes.[3] These civilian Space science educational opportunities are outstanding options to be able to develop more understanding of Space climate impacts on Military Decision Making Process.

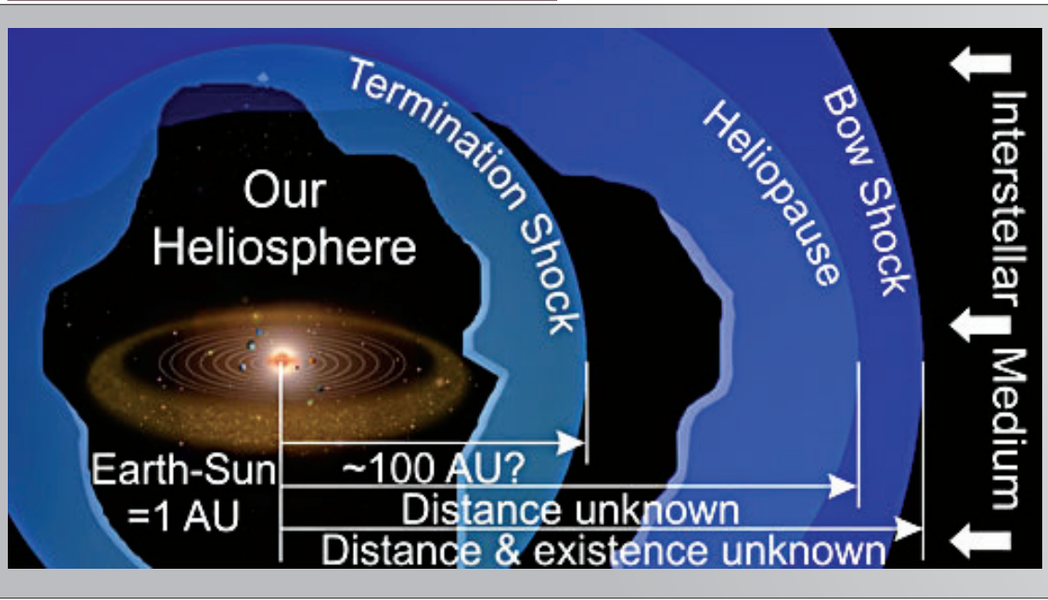
There is a second opportunity to which one could ask the question what if we could send Soldiers to a short civilian course to learn about Space science? What would be the benefit? Sometimes asking "what if" leads to the future.[4] One such possibility is the Center for Integrated Space Weather Modeling 11 day Summer School on the Boston University Charles River Campus in Boston's Back Bay. What if a soldier attended this short course? The intent of the course is to give students a comprehensive immersion in the subject of Space weather. It helps a student or a professional to answer the following questions about Space weather: What is it? What does it do? What can be done about it? These aspects of learning about Space weather are covered in many of the military courses that are available through other venues. However, the Center for Integrated Space Weather Modeling course allows for learning through visualization via computer modeling of Space weather under varying conditions which offers a different perspective on the learning. This course offers an additional huge benefit in that there is no fee for the course and thus would only require other Temporary Duty associated costs.[5] Therefore, one possible scenario would be for a Space Cadre member to attend this course enroute to one of the aforementioned graduate schools, thereby providing a great transition to the science based aspects of Space. Another is to send a Reserve Officer Training Course or U.S. Military Academy cadet to the Center for Integrated Space Weather Modeling summer course to motivate him or her to become future Space Cadre members.

Another possible short training is the International School for Space Simulations (ISSS). The intent of this course is the teaching of Space plasma simulation techniques and for the sharing of results with researchers in plasma physics." International School for Space Simulations brings together the most recent spacecraft observational results and theoretical advances to address the outstanding problems in Space plasma physics. Lastly, the course provides a view into the different types of Space science simulations and a chance to meet with the simulators who are the experts in the field.[6]

These two examples of short civilian training can be used to introduce Soldiers to Space science and techniques of computer modeling used to analyze Space phenomena. Other, more in-depth opportunities exist in which Soldiers can gain significantly more understanding of Space than through these short courses.

The third venue or opportunity which offers great opportunities for development in Space operations is the ACS program. The ACS program offers many outstanding opportunities for professional growth through continued civilian education. Depending on the goal of the specific academic plan, a Soldier can significantly augment the professional development already provided by military training and schools. A specific example of an ACS program that can increase knowledge of Space is the Masters of Science in Space physics degree program at the University of Texas at San Antonio. This program is offered in collaboration with the scientific staff at Southwest Research Institute a globally premiere institution operating at the scientific forefront in many areas, including Space research. In this program the University has partnered with the Southwest Research Institute to allow for significant student interaction with Institute scientists and missions. This is accomplished by the scientists and physicists at the Institute being adjoint professors who directly teach and mentor the graduate students in current Space science missions. By doing this, the organization is able to offer an in-depth curriculum that includes classes in Fundamentals of Space Physics, Heliospheric Physics, Magnetospheric Physics, Space Weather, Planetary Science, Computational Fluid Dynamics, Plasma Physics and Magnetohydrodynamics, and a

Figure 2
Shows the heliosphere and boundaries.
Courtesy of Southwest Research Institute Web site



Space Physics Laboratory class. The Southwest Research Institute adjoint professors also are available as facilitators for independent studies in Orbital Mechanics as well, utilizing Satellite Tool Kit for orbital mechanics simulations and MATLAB for extensive, rigorous mathematical analysis of orbital dynamics problems.

The graduate program at UTSA with the partnership with Southwest Research institute has some advantages for Army Space Cadre. First, the UTSA program utilizes adjoint faculty from the Research Institute with current scientific operational experience to teach all of the Space physics classes mentioned above. Working closely with these Research Institute scientists, students not only learn about current scientific principles and phenomena of Space but also are able to participate in design, testing, deployment, and use of scientific payloads. By being immersed in cutting edge Space science missions, Space Cadre develop new ideas and pose solutions to previous limitations. In doing so, we can "significantly benefit our warriors."[7] This benefit to the force, from this perspective, is manifested by the integration of Space science missions and Space climate awareness into the Military Decision-Making Process.[8] New ideas and unique solutions are what has lead scientists to design, develop, and launch small satellite clusters to obtain more robust, spatially and temporally comprehensive observations of the physical phenomena which occur in Space, and thus lead to the greater awareness needed. This small satellite cluster approach is one that is being explored to benefit Warfighters as well.[9, 10]

There are specific SwRI missions that enhance Space environment awareness and can thus provide information necessary for the Military Decision-Making Process. Of these missions, six are currently operational and two are in development at this time.

The six operational missions are the Two Wide-angle Imaging Neutral-atom Spectrometers or TWINS, Interstellar Boundary Explorer, New Horizons, Cassini, Juno, and Rosetta.

The Two Wide-angle Imaging Neutral-atom Spectrometers provides a new capability for imaging the magnetosphere. By imaging the charge exchange neutral atoms using two identical instruments on two widely Spaced high-altitude, high-inclination spacecraft, the spectrometer provides 3-dimensional visualization of large scale structures and dynamics within the magnetosphere for the first time.[11] *(See Figure 1 page 49)*

The Interstellar Boundary Explorer Spacecraft is a small satellite that observes the Solar System Boundary by collecting energetic neutral atoms. These atoms provide information about the Solar System's boundary by travelling toward Earth from beyond the orbit of Pluto. This boundary is created by the interaction between the solar wind and the interstellar medium. The solar wind streams out into Space and carves out a protective bubble around the Solar System called the heliosphere.[12] *(See Figure 2)*

New Horizons was built primarily by Southwest Research Institute and the Johns Hopkins Applied Physics Laboratory. New Horizons mission is to explore the Pluto-Charon system and the Kuiper belt, beginning in 2015. The New Horizons spacecraft executed a fly-by of Jupiter in 2007. The Jupiter fly-by was used to provide a gravitational assist that shaved years off the travel time to Pluto-Charon and the Kuiper belt. Charon is the largest moon of the dwarf planet Pluto. The Kuiper belt

> " Space is one of the best jobs in the Army especially when Space education and professional development can be augmented by leading scientists with instruments in flight and first-hand knowledge of the future missions that they are developing."

is a region of the Solar System beyond the planets extending from the orbit of Neptune and is similar to the asteroid belt, although it is far larger.

Cassini studies the planet Saturn and its moons. The spacecraft consists of two main elements: the National Aeronautics and Space Administration Cassini orbiter and the European Space Agency Huygens probe. The Huygens probe separated from the orbiter and reached Saturn's moon Titan where it made an atmospheric descent to the surface and relayed scientific information. Cassini is the first spacecraft to orbit Saturn and the fourth to visit it.

Juno's mission is to study the planet Jupiter. The spacecraft will be placed in a polar orbit to study the planet's composition, gravity field, magnetic field, and polar magnetosphere. Juno will also study Jupiter's formation process, including the possible existence of a rocky core, the amount of water present within the deep atmosphere, and mass distribution within the planet.

Last of the operational Space missions discussed here, in which SwRI participates, is the European Space Agency Rosetta mission; to the comet 67P/Churyumov-Gerasimenko. Rosetta consists of two main elements: the Rosetta cometary orbiter and the Philae cometary lander. Enroute to its target, the spacecraft will flyby and examine Mars, Earth (twice), and two asteroids.

There are also two Space science spacecraft with associated instruments currently in development at Southwest Research Institute and their partner organizations. These two missions are the Magnetospheric Multiscale mission and the Radiation Belt Storm Probes. These and other missions, not yet selected but in competition or early formulation, provide students in this program with continual exposure, not only to the elements of Space mission formulation and development, but also the associated scientific data flow and the intellectual deduction processes from which new scientific knowledge is born.

There will be significantly increased understanding of Space weather, climate, and associated impacts on Military Decision-Making Process through Two Wide-angle Imaging Neutral-atom Spectrometers, Magnetospheric Multiscale, and Radiation Belt Storm Probes.

Specifically, as previously eluded to, "TWINS will provide stereo imaging of the Earth's magnetosphere, the region surrounding the planet controlled by its magnetic field and containing the Van Allen radiation belts and other energetic charged particles."[13] The imaging technique, Energetic Neutral Atoms analysis, is a newly developed approach to remotely observing hot plasma populations. This 3-dimensional visualization will expand our current understanding of overall magnetosphere dynamics. A better understanding of the magnetosphere, especially with variations of solar input to this system, will allow for better modeling, better forecasting, and thus a greater ability to predict impact on the mission.

Magnetospheric Multiscale "will use Earth's magnetosphere as a laboratory to study the microphysics of magnetic reconnection, a fundamental plasma-physical process that converts magnetic energy into heat and the kinetic energy of charged particles."[14] Magnetic reconnection is thought to be the dominant element in many forms of astrophysical energy release, including solar flares and auroral storms on Earth. Increased knowledge of the reconnection process, and thus the mechanism which drives the amount of energy needed for geomagnetic storms, will also lead to a greater ability to analyze its effects on

" With this new understanding of the solar cycle effects on the radiation belts, the Earth's magnetosphere, and magnetic reconnection provided by Radiation Belt Storm Probe, Magnetospheric Multiscale, and Two Wide-angle Imaging Neutral-atom Spectrometers respectively, we will be able to better predict how these fluctuations will affect our military Space based assets, Military Decision-Making Process, and thus our support to the Warfighter."

Figure 3
shows the Magnetospheric Multisphere spacecraft and magnetic reconnection.
Courtesy of Southwest Research Institute Web site

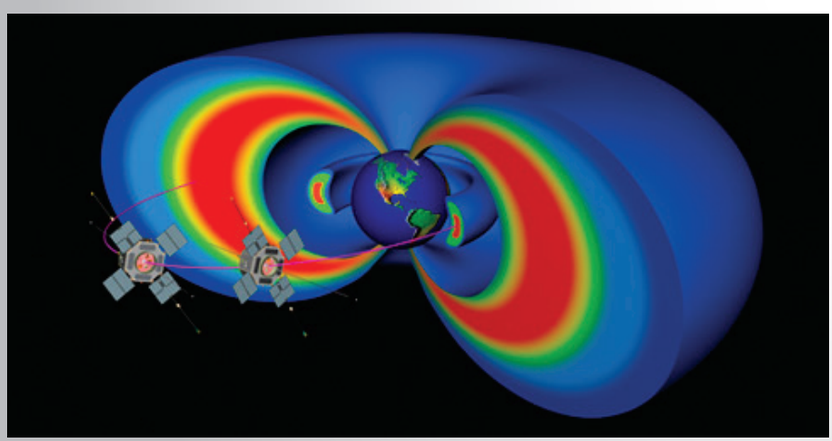
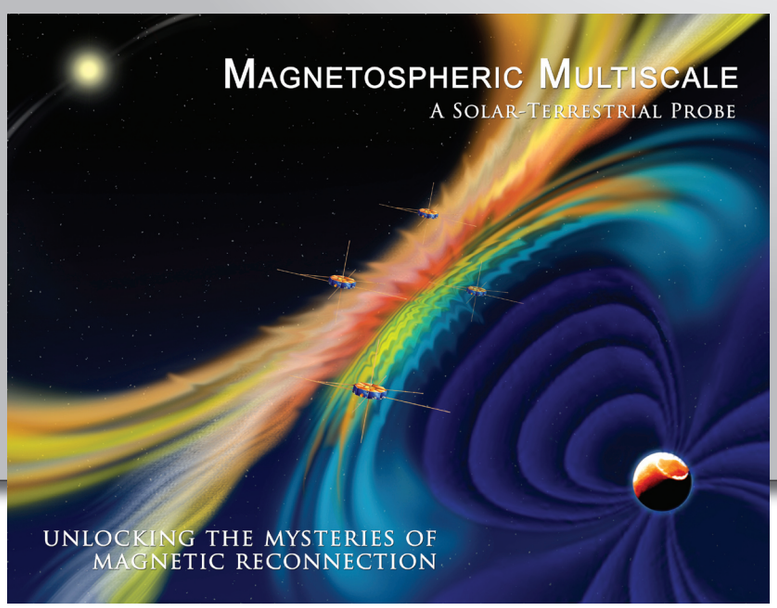


Figure 4
Shows Radiation Belt Storm Probe Spacecraft, the inner and outer radiation belts, and the slot region.
Courtesy of Jet Propulsion Laboratory Web site



Military Decision-Making Process. *(See Figure 3)*

Radiation Belt Storm Probes "will provide unprecedented insight into the physical dynamics of the radiation belts and give scientists the data they need to make predictions of changes in this critical region of Space."[15] These physical dynamics of the outer radiation belt are resultant from solar event drivers and are often a function of solar cycle fluctuations and frequency of the mechanisms which cause geomagnetic superstorms and subsequent possible effects on military satellite operations.[16] *(See Figure 4)*

With this new understanding of the solar cycle effects on the radiation belts, the Earth's magnetosphere, and magnetic reconnection provided by Radiation Belt Storm Probe, Magnetospheric Multiscale, and Two Wide-angle Imaging Neutral-atom Spectrometers respectively, we will be able to better predict how these fluctuations will affect our military Space based assets, Military Decision-Making Process, and thus our support to the Warfighter. Space is one of the best jobs in the Army especially when Space education and professional development can be augmented by leading scientists with instruments in flight and first-hand knowledge of the future missions that they are developing. The UTSA/Southwest Research Institute graduate program in Space physics offers precisely this opportunity.

BIO

MAJ Stacy Godshall is a Space Cadre member and Signal Corps Officer currently assigned to the United States Military Academy as a Physics Instructor. He is responsible for teaching a two-course sequence of university-level, calculus-based physics to USMA Cadets. His previous tour was at the University of Texas at San Antonio where he completed a Master of Science Degree in Physics emphasizing in Space Physics. The topic for his comprehensive examination for the M.S. degree was "Lunar Crossings of the Earth's Magnetotail and Interplanetary Influences on Lunar Dynamics." Simultaneous to the completion of the M.S. Physics degree, he earned the Space Systems Certificate from the Naval Post Graduate School. His professional Space Operations experience includes Company Command of D Company, 1st SATCON BN (now 53rd SIG BN). In addition, he has completed the Space Operations Course and Space 200 at the National Security Space Institute and earned the Air Force Space Badge.

Special thanks to:

Dr. Craig Pollock,
Southwest Research Institute Adjoint
Space Physics Professor, The University of Texas at San Antonio for his contributions in editing this article.

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[13] http://twins.swri.edu/

[14] http://mms.space.swri.edu/

[15] http://rbsp.jhuapl.edu/

[16] MAJ Stacy H. Godshall, Space Climate and the Military Decision Making Process in Solar Cycle 24, Spring 2008, Vol. 7, Number 2, p. 51.

Tip of the Sphere

FA40 Proponent/ Army Space Cadre News

BY MIKE CONNOLLY

Initially commissioned as an Air Defense Officer, Mike Connolly served the majority of his 26 year career as an Army Aviator prior to being selected as a Functional Area 40 during the first Career Field Designation Board. His assignments as an FA40 included Chief of Staff, Cheyenne Mountain Operations Center; Director Command and Control Systems (J6) Cheyenne Mountain Operations Center; Command Director, Cheyenne Mountain Operations Center; Executive Assistant to the Commander, U.S. Strategic Command; Deputy, J36 (Current Operations), U.S. Space Command; Chief, Joint Space Support Team, U.S. Space Command; Chief, Standards and Evaluations Cheyenne Mountain Operations Center; and Mission Director, Cheyenne Mountain Operations Center. He is a graduate of the U.S. Army War College as well as East Tennessee State University.

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Army Civilian Cadre Update

The Army Space Cadre Office is working in close coordination with other services' Space cadre offices to establish a common approach to the civilian Space cadre. The Services meet monthly in the National Space Security Institute led Space Professionals Working Group and on an ad hoc basis to discuss specific civilian cadre matters.

In order to provide a mechanism to identify and capture civilian Space cadre members, we recently led an effort to define civilian Space codes for use by all Services to identify their "Space" civilians (both positions and personnel). A list of nine codes were developed, packaged, coordinated among the Services' cadre offices, and forwarded to the Headquarters Department of Army G1. The G1 submitted a "joint" Defense Civilian Personnel Data System Change Request for consideration. The Services' personnel offices are working out the particulars on how to apply the codes to civilian billets and personnel.

In order to validate current approved civilian billets and gather information on civilian cadre members, we developed a civilian cadre questionnaire and are initially distributing it to U.S. Army Space and Missile Defense Command/Army Forces Strategic Command employees. Once responses are received, the data will be imported into a database to serve as the foundation for the civilian cadre tracking and reporting system. Our intent is to then send the questionnaire out to targeted individuals and organizations. This will also provide an opportunity for civilian employees to nominate themselves and/or their billet for inclusion in the Army Space Cadre.

Our future challenges are determining methods to identify and apply certification levels to civilian employees and developing a professional development and recognition program.

U.S. Air Force Space Badge

Thanks to an increased attention to detail we have experienced very few submission errors on badge packets. The volume of badge submissions has also increased and since its inception in September 2006 we've awarded over 700 badges to Soldiers throughout every component in the Army. Bob Kyniston is the Army Space Cadre Office point of contact for U.S. Air Force Space Badge processing. Scan and e-mail requests to Mr. Kyniston at robert.kyniston@smdc-cs.army.mil or fax number (719) 554-0451. For assistance, contact him at (719) 554-0459 or send him an e-mail.

Skill Identifier 3Y Revision/ Expansion Update

We mentioned in an earlier edition our request to Headquarters Department of Army G1 to revise and expand the 3Y skill identifier to apply to all grades of Soldiers. The request has been favorably received throughout the staffing process and we expect implementation by September 2009. The 3Y will be renamed "Space Enabler" and will apply to officers, warrant officers and enlisted Soldiers. We will publish eligibility and request procedures in a future journal update once the Army G1 approves the revision/expansion.

Preparing Your File

for Promotion or Selection Boards

Promotion and Selection Board messages identify by date of rank which Officers fall into the zones of consideration (above-the-zone, promotion zone, and below-the-zone) for each board. Every Officer should know when their particular year group will fall into the zones of consideration and allow some lead time to make sure their file is ready for the board. Here are some of the areas you should check carefully to make sure the board is reviewing the most up to date information about you:

→ Official Photo - Your official photo is your "first impression" to the board. Outdated photos will not create the best first impression.

- Get your photo taken in plenty of time to ensure it is in your updated board file and your Officer Record Brief has been updated to reflect the current photo date.
- Make sure your uniform fits properly.
- Ensure that you are wearing all awards and badges that are listed on your Officer Record Brief. You also need to ensure that all awards and badges you are wearing appear on your Officer Record Brief and in your Official Military Personnel File.

→ Officer Record Brief - Make every effort to provide a reviewed and updated Officer Record Brief to the board. Pay close attention to the following areas:

- Date of Rank
- Active Federal Service data
- Assignment History
- Awards
- Date of last photo and physical exam
- Military and Civilian Education levels, institutions, and courses or disciplines are correct
- Last Officer Evaluation Report date – Officer Evaluation Report dates are not updated until the report is processed by Officer Evaluation Report branch.
- Mailing address
- Officer Record Briefs are not automatically updated in the board file, so notify your Career Manager to ensure the updated Officer Record Brief is in your file.

→ Officer Evaluation Reports:

- Board messages list the requirements for "complete-the-record" and the time requirements when Officer Evaluation Reports must arrive at Human Resources Command. Officer Evaluation Reports must be processed by the Officer Evaluation Report branch to be included in your board file. Ensure your Officer Evaluation Reports are completed and arrive at Human Resources Command by the cutoff date.

→ Review your Official Military Personnel File and allow plenty of lead time when submitting updates or corrections. The Official Military Personnel File record section of Human Resources Command is always a busy place, especially as a board date approaches.

- After updating your Official Military Personnel File, go back and view it again to verify changes were made as requested.

→ Ensure your Career Manager has your correct mailing address and phone number in case he/she needs to contact you for information.

Keep your file updated all the time, not just when it is board time and you will always be prepared. You never know when someone might be looking at your file for a special assignment or some other type of selection. Good luck!

Applying to Advanced Civil Schooling (ACS) and Training with Industry (TWI)

Interested in getting an advanced Space-related degree or maybe spending a year working in a Space industry? The FA 40 community is allocated six schooling and two TWI slots per year. Currently, we have FA 40 officers at Virginia Tech, Georgia Tech, MIT, Webster University in Colorado Springs, Naval Post Graduate School and Air Force Institute of Technology. We have two Space Professional studying with our industry hosts in Littleton, CO and Laurel, MD. A selection board convenes each year select candidates for the following academic year. If you would like to compete, here's the "How to" for applying:

→ Determine if you are eligible. You must meet the following requirements:

- Regular Army or Voluntary Indefinite status at time of application and selection.
- Not more than a total of 17 years Active Federal Service (AFS) upon entry into program.
- Undergraduate degree in an appropriate academic discipline.
- Undergraduate GPA of 2.5 or better.
- Minimum GRE score of 500, 500 and 4.0. Scores must be current (within five years). GRE scores can be waived. The minimum waiverable GRE score is 350 and 2.0.
- Be eligible to PCS. School start dates vary, so be sure to take this into account.
- Have completed at least one operational FA 40 assignment.

→ Submit your application to the HRC FA 40 Career Manager

- DA Form 1618. Samples can be found on the HRC FA40 Career Manager Web page: https://www.hrc.army.mil/site/protect/Active/opfamio/FA_40/fa40.htm
- Official Transcripts.
- GRE scores. GRE scores are not required if pursuing a PhD. Officers who are deployed and do not have the opportunity to take the GRE due to unavailability of testing facilities have 90 days following re-deployment to test.

Note: If applying for TWI, all you need to submit is a DA Form 1618.

If selected, you incur an Active Duty Service Obligation in the ratio of 3:1 for a maximum of six years. So if you go to school for 12 months, you incur a 36 month commitment.

Call Jerry Pepin, 719-554-0457 for additional details.

Space

The Best Job in the Army

BY MIKE CONNOLLY

I would bet that if you asked the majority of Soldiers and Civilians serving the Army, they would all say that it was their branch or career field that was the best. This sentiment, although understandable, challenges the Army Space Personnel Development Office to make "Space - The Best Job in the Army" more than just the theme for this year's symposium.

The recognition that FA40 officers comprise the foundation of the Army's Space Cadre has long been an accepted fact; however the community relies now, more than ever, on Space enablers. These 1500 military (Active, Guard and Reserve) and 750 Civilian personnel are complementing the 328 FA40s while contributing to the success of organizations at all levels and components of the Army. Since we gathered last year, the ASPDO (comprised of the Army Space Cadre Office and FA40 Personnel Development Office) has aggressively worked to make being part of the Army Space community a rewarding and forward looking career that provides both Space enablers and Space professionals the opportunity to succeed.

In June, we left the confines of our offices and at the direction of BG Kurt S. Story conducted an off site with several senior FA40 officers. We made many decisions that will impact the entire community, hopefully all for the good!

The first action at our off site was to refine our mission statement. The Army Space Cadre Office and FA40 Personnel Development Office had been operating with two distinct mission statements. Although appropriate at the time they were developed, the current organizational structure and the merging of many tasks made it more appropriate for a single mission statement written in a manner that covers both Space enablers (Army Space Cadre Office) and Space professionals (Personnel Development Office). Additionally, we developed a vision and Mission Essential Task List which previously did not exist.

We then confirmed that the Army Space Personnel Development Office would serve as the single point of contact for the eight life-cycle management functions as related to FA40 personnel development matters. Next, it was agreed that the FA40 Personnel Proponency Office would now be referred to as the FA40 Personnel Development Office as outlined in the latest update of AR 600-3.

Next, we established principal coordination points, and coordination points, as outlined in AR 600-3. A principle coordination point is the head of an agency that has additional staff relationships with specific personnel developers. The Deputy Commanding General and Director, Future Warfare Center was identified as principal coordination points for the Army Space Personnel Development Office. Coordination Points are individuals who have a vested interest in a career field. Human Resources Command, Senior Leader Division, U.S. Army Reserves and the National Guard were all identified as coordination points.

Then we established a personnel development steering committee as outlined in AR 600-3. This committee is designed to assist the Army Space Personnel Development Office in the performance of its mission. The members of the committee are based on position and include the Deputy, Future Warfare Center; Joint Functional Component Command-Space J3; Headquarters Department of Army G3/5/7; U.S. Army Space and Missile Defense Command/Army Forces Strategic Command G3 (if FA40); Commander, 1st Space Brigade; Senior Space Support Element Chief; and Chief, Army Space Personnel Development Office.

This off site with key senior leaders served as the first meeting of the steering committee and we discussed some initiatives to mature the career field. Among those were four year Career Field Designations, creation of a FA40B career track, internships, a PHD program, and 3Y LT recruitment. These are all developing initiatives which we will brief out at the symposium.

The Army Space Cadre Office has also accomplished numerous actions that collectively institutionalize the Space cadre across the Army and Joint Community. They have gained approval and submitted for coding Space billets that should appear on fiscal year 2011 manning documents. They worked with our Sister Services to develop a common method to code Civilian billets throughout the joint communities as well as an effective manner in which to track Space enablers. The Space Cadre Tracking System for both Soldiers and Civilians is being run through its paces and will be implemented this fiscal year. The identification of education and training requirements is ongoing with a focus on providing developmental opportunities for all members of the Space cadre. Finally, the 3Y (Space Enabler) Additional Skill Identifier for both Warrant Officers and Enlisted has been approved. This Additional Skill Identifier will now provide an identification method for all Soldiers who meet established training and/or educational requirements.

Although we still have work to do, as an organization, our vision is to provide a trained and ready Space cadre. With events such as our annual symposium, quarterly meetings of the steering committee, and continued input from you, we will meet that goal.

Training Insights

BY LARRY MIZE

Larry Mize graduated from Xavier University with a Bachelor of Science in Mathematics in 1973. He entered active service in the United States Navy serving a career specializing in Naval Intelligence, Aircraft Carrier Operations, Naval Special Warfare (SEALs), and Space Operations. He attended French language training at the Defense Language Institute and Subsequently served as the U.S. Navy Liaison Officer to the Commander French Forces Indian Ocean/French Foreign Legion/Commandos Marine in Djibouti. He attended Naval Postgraduate School and was awarded a Master of Science in Space Systems in 1986, subsequently serving at U.S. Space Command and U.S. Strategic Command. Mize is currently Chief of Space and Ground-based Midcourse Defense Education Training.

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CG TRADOC Designates USASMDC/ARSTRAT an Institution of Excellence

BY TOM COLEMAN, CHIEF, DCD QUALITY ASSURANCE OFFICE

When U.S. Army Space and Missile Defense Command/Army Forces Strategic Command's Directorate of Combat Development (DCD) launched a new Space training program over nine years ago, it was destined for success. DCD just received word from Headquarters U.S. Training and Doctrine Command that they have exceeded the TRADOC accreditation standards and are granted Full Accreditation and designated an "Institution of Excellence." "Everyone worked very hard for this accomplishment, and our hard work paid off," said Tom Coleman, DCD Quality Assurance Office Chief. This outstanding achievement was the result of several years of work and refinement for DCD.

It all started eight years ago. In June 2001, DCD developed and began conducting the first Space Operations Officer Qualification Course. Since then, DCD has graduated 16 classes and trained a total of 347 students. Then in 2003, DCD realized that the Space Operations Officer Qualification Course had matured enough to invite the Headquarters TRADOC Quality Assurance Office out to Colorado Springs, Colo., to review the course with an eye toward eventual TRADOC accreditation. In 2003, TRADOC representatives visited DCD and conducted a Staff Assistance Visit which concluded with a positive outbrief and a list of areas to improve upon prior to an official accreditation visit by Headquarters TRADOC in 2006.

While DCD was working on these course improvements, a parallel effort was taking place in Colorado Springs. The Ground-based Midcourse Defense (GMD) Operator Course had been fully operational since 2003. After two years of course improvements, the GMD Operator Course was fully accredited (100 percent) by TRADOC in July 2005. At the same time, DCD was recognized as an "Institution of Excellence." As a result of this recognition and the pending re-visit by Headquarters TRADOC, DCD realized the importance of Quality Assurance in all courses and stood up its own Quality Assurance Office. DCD then began to prepare for the official TRADOC accreditation visit in 2006. In December 2006, a TRADOC Quality Assurance team returned to DCD and, after several days of review of courseware, instructor performance, and other accreditation criteria, the Space Operations Officer Qualification Course was 100 percent fully accredited. From this inspection, DCD was formally recognized by the Commanding General of TRADOC as an "Institution of Excellence." At the time of the Space Operations Officer Qualification Course accreditation, TRADOC indicated that no TRADOC or Non-TRADOC schools had ever received a 100 percent accreditation.

Continuing on the Quality Assurance momentum generated by the successful Ground-based Midcourse Defense and Space Operations Officer Qualification courses, DCD invited the TRADOC Quality Assurance Office out for another Staff Assistance Visit in June 2009. "The DCD goal for the SAV in 2009 was to do the best we can. My personal goal is to show TRADOC the quality of our training organization and the quality of our training products," said Coleman. "We have always developed and conducted our Space training IAW TRADOC Reg 350-70, and this visit was to demonstrate that we take our training development and delivery responsibilities very seriously," he said.

This time, the TRADOC Quality Assurance Office would look at the entire organization and all Doctrine, Organizations, Training, Materiel, Leadership and Education, Personnel and Facility areas, not just a single course. TRADOC no longer accredits a single course but instead conducts "Institutional Accreditations." When an institution is accredited, all courses

"The Best Job in the Army → Deserves the Best Training"

within that institution are automatically accredited. This Staff Assistance Visit was to conduct a pre-accreditation evaluation across all DOTMLPF domains. During the visit, the TRADOC Quality Assurance Office team used a variety of data collection and analysis techniques to determine whether USASMDC/ARSTRAT DCD met accreditation standards and whether or not:

1. The Institution DOTMLPF functions adequately support the conduct of training, education, and leader development.
2. The Institution develops and implements quality, current, and relevant training and education that reflects contemporary operational environment and validated lessons learned.
3. Training of active Army and Reserve component Soldiers is to the same task standard.
4. The right education is presented, using the right medium, to the right Soldier and leader, at the right time, and the right place.
5. Institution is preparing for future training and education requirements.

Extensive preparations for this Staff Assistance Visit began about a year ago. At that time, the small, newly created DCD Quality Assurance Office began with a plan and roadmap for success. First, there were meetings conducted with Course Managers and Training Developers. These meetings were designed to review with all the new 30 TRADOC Accreditation standards and answer questions regarding each of the standards and how they apply to DCD. Additionally, the meetings provided an opportunity to allow all attendees to compare lessons learned regarding training development materials and discuss best practices that worked. In addition to the meetings, numerous e-mails were sent out periodically informing all Course Managers and Training Developers where to find samples and examples of courseware documents ranging from lesson plans to Programs of Instruction to Training Analysis Reports.

In addition to this extensive library of documents to help DCD training developers create their coursework, the Quality Assurance Office conducted quarterly reviews of all DCD Space and Ground-based Midcourse Defense courses. This was done to ensure course managers and training developers were making needed corrections to their courseware in accordance with TRADOC accreditation standards. To accomplish this, each Quality Assurance Evaluator met with each course manager and their supporting team multiple times. During these visits the evaluator went through and compared each course with the 30 standards, to ensure they were being followed. The evaluator then established a way ahead for each course based on the needs of that course. After the reviews, the DCD Quality Assurance Office sent a report to each course manager for review and corrections if needed. Based on these quarterly reviews, colored scorecards were maintained by the DCD Quality Assurance Office internally to keep track of how everyone was doing in all areas. The scorecard results were briefed to DCD leadership weekly. Based on the meetings with the course managers, a self-assessment report was written for each course, nine self-assessments in all. These nine course self-assessment reports were rolled up into a single DCD self-assessment report.

The Quality Assurance Office worked closely with course managers for all the courses to review lesson plans, training support packages, programs of instruction, course management plans, and many other documents required of each course. This effort was time and labor-intensive. Documents were written, edited, re-written and re-edited until they complied with TRADOC standards. Thirty days prior to the Staff Assistance Visit, Headquarters TRADOC required the USASMDC Quarterly Assurance Office to post documents to a Web site so they could review our products. Electronic staff work between the Quarterly Assurance Office and course managers was already the order of the day. Now the work had to be forwarded to TRADOC. Naturally, at this time, computers started crashing like cars at the demolition derby. Not only were the documents listed above needing to be posted, but the self-assessment reports as well. When the documents were finally able to be uploaded to the TRADOC Web site, the work was immediately being reviewed and clarifications and updates were requested. Replies were prepared and posted. Questions were answered via e-mail, phone and fax.

As preparations were made for this Staff Assistance Visit, it was important to note that the landscape had changed dramatically since the 2006 visit. Instead of one course to evaluate, the Space Operations Officer Qualification Course, this time, there were eight courses subject to the Staff Assistance

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Some of the DCD training staff at the 2009 Army Apace Cadre Symposium held in Colorado Springs, Colo., Aug. 3-7. *Photo by DJ Montoya, 1st Space Brigade*

Visit. The Space Operations Officer Qualification Course alone consists of nearly 400 hours of coursework, and all the associated paperwork to support that coursework in accordance with TRADOC Reg 350-70. DCD's other courses range in length from one week (40 hours) to seven weeks (nearly 300 hours) of instruction. Every document that supports every course needs to comply with TRADOC standards to ensure the best training is being provided to America's Space Warriors. In addition, the standards used in the last visit were re-written and changed dramatically. Instead of 24 standards to measure training-related areas, there are now 30 standards to measure Doctrine, Organizations, Materiel, Leadership and Education, Personnel and Facilities compliance. Failure to adequately address items like safety, Operational Security, or Contemporary Operating Environment in any one course could cause an automatic downgrade for the whole unit.

The Staff Assistance Visit at this time was an important step for DCD's goal to eventually receive the "Institutional Accreditation." This goal was supported by the full commitment of the DCD leadership, the training course managers, and the training developers. "This staff assistance visit has been our main focus for quite some time," said Coleman. "It is a big job, but the QAO team, working in close partnership with all course managers and developers, has great synergy and momentum, and has met this challenge head-on," he said.

In support of this goal, DCD hired an additional contractor to help with courseware reviews and provide assistance to all the courses. The DCD Quarterly Assurance Office team was anxiously engaged in all aspects of quality assurance to include quarterly reports on quality assurance progress for each course; self assessments; individual document reviews; and a host of other tasks to ensure all the course managers and developers were knowledgeable of the TRADOC Quarterly Assurance Office standards for the Staff Assistance Visit. Additionally, the DCD training development team worked on a common framework that is our DCD Quality Assurance Office Process (see below). This chart shows the required process between the DCD Quality Assurance Office and each of the course managers to ensure DCD meets the goal of institutional accreditation.

Prior to the actual visit, DCD Quality Assurance Office team drafted a schedule for the Staff Assistance Visit team. TRADOC submitted a proposed schedule that was quite different. We worked together to smooth out a final visit schedule and get the team of four evaluators to our numerous locations, to meet with our personnel in Colorado Springs. We tried to minimize the effects of travel time and let the evaluators do as much work as possible while in a single location.

They reviewed our documents, talked to instructors and students, looked at our facilities, and checked to see that instructors were qualified to train Soldiers. Since they had read the documents before they got here, they were familiar with the operations. And this allowed them to focus on areas where they may have had concerns. One highlight during the Staff Assistance Visit was a 4-hour visit to the National Security Space Institute. During the visit, the TRADOC Quality Assurance Office team learned about the National Security Space Institute mission, received briefings on various programs, met with instructors, reviewed Space 200 records, and visited a live WAREX. Several National Security Space institute faculty and staff were on hand to clarify the Institute's successful partnership with DCD. The team also visited with Space Operations Officer Qualification Course students to get their perspective on the training program

and how they would improve the course. Also, the Quality Assurance Office team met with some DCD platform instructors to discuss how they approach their responsibilities, and to gather additional information dealing with institutional training and classroom instruction. In addition to visiting with all DOTMLPF points of contact within DCD, the team conducted an extensive review of all training courseware documents. "It was a very busy week," said Coleman. "But we would not have it any other way … we were able to show the team how proud we are of our training," he said.

The results of the Staff Assistance Visit were outstanding. During June 23 – 26, 2009, a TRADOC Accreditation Team conducted the Staff Assistance Visit and inspected the DCD as an entire training institution. The DCD Quality Assurance Office is proud to announce that the command's institutional training has been fully accredited and is designated an "Institution of Excellence." "TRADOC QAO visited us for a close look and we were ready. I am very proud of the entire DCD team," said COL Bruce Smith, Directorate of Combat Development Director.

So does the Quality Assurance Office just fold up its tents and go home for three years until the next inspection? Not at all! Any concerns the TRADOC team identifies needs to be addressed. Courseware for all training courses still needs to be updated and maintained. When work is done right the first time, it's easier to maintain it than it is to redo it. Space and Missile Defense is a mission that changes frequently as new capabilities become available and it's learned how to employ them. Courseware must keep pace.

The DCD Quality Assurance Office team will remain very busy. They will continue to perform many tasks on a daily basis; write and update training standard operating procedures, review courseware, assist in writing courseware, research training questions, clarify regulatory requirements for the various courses, establish new courses in alignment with the systems approach to training process, maintain course records, and conduct internal and external evaluation programs. The DCD Quarterly Assurance Office will also continue to perform quarterly course evaluations which help to monitor the course documents and training for adherence to TRADOC 350-70 and command training requirements, which will help DCD maintain their accreditation in the out years. The DCD Quality Assurance Office will also continue to perform quarterly instructor evaluations, assisting with student counseling, external and internal course surveys, lessons learned integration and other tasks that assist the course managers with professional course implementation.

There are some changes on the horizon for the DCD Quality Assurance Office. They have been organizationally realigned under the Director, DCD, and are expecting to change physical locations and add at least one more person to the team. Finally, TRADOC has stated that they will be rewriting the standards again this winter, and they have asked DCD, as a non-TRADOC school, to help with that process.

BIO: TOM COLEMAN

Coleman is Chief, Directorate of Combat Development Quality Assurance Office in Colorado Springs, Colo. He is responsible for the total Quality Assurance program within DCD, which includes overseeing all aspects of courseware development, documentation, and training to ensure all training activities are conducted in accordance with U.S. Training and Doctrine Command standards across all Doctrine, Organizations, Training, Materiel, Leadership and Education, Personnel and Facility domains. Coleman served a career in the Air Force in the Signals Intelligence and Imagery Intelligence career fields for the first nine years. He then cross-trained into Education and Training and held assignments as an Education and Training officer at the Occupational Measurement Center, Headquarters Air Force Reserve Officer Training Corps, and the Academic Instructor School. Coleman retired in 1994. Prior to his current assignment, he was on the faculty at the Air Force Academy and, in addition to full-time instructor duties, was responsible for faculty development in the Management Department at the United States Air Force Academy. He holds a Bachelor's degree in Communications from Brigham Young University and a Master's degree in Human Resources Management from Troy State University.

Tip of the Sphere

Training Insights

BY ED ANDERSON

Commissioned as a Field Artillery Officer, MAJ Ed Anderson is currently serving as the FA40 Career Manager. His assignments have included Deputy Commander, Missile Warning Center, Cheyenne Mountain Operations Center; Chief, Missile Defense Integration, CMOC; and Space Control Planner, 1st Space Brigade. He is a graduate of the Interservice Space Intelligence Operations Course, Ground-based Missile Defense Operators Course, Space Operations Officer Qualification Course, and Space 300.

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Career Corner

I've started a series of upgrades to the Human Resources Command FA40 Web site. The goal is to enable FA40s to become active participants in managing their career. The Web site will include: shortcuts to human resource tools; career management smart book (board preparation, schools, awards, etc); dissemination of human resource information; and current status of the career field. Your feedback is important as I developed this site to better serve you.

Important Notes:

- Keep your career manager informed of changes to your Officer Record Brief (deployments, schools, duty title, etc.). Decisions are made based on the information from your Officer Record Brief. Just because you're not expecting to move doesn't mean Human Resources Command is not working a mission analysis to support a new requirement.
- Check receipt of an Officer Evaluation Report. You can view the status of your Officer Evaluation Report at the Interactive Web Response System, https://www.isdrad16.army.mil/iwrs/. If your Officer Evaluation Report is submitted at the same time a board is going on, and you're not being considered for the board, it is not uncommon for it to remain in a working status for a month or two. This is due to the priority going to the officers going before a board.

Congratulations to our FA40s selected for promotion by the Fiscal Year 2009 Major Board:

CPT Thomas Amodeo
CPT Kaysteine Briggs
CPT Mark Cobos
CPT James Edwards
CPT William Hamilton
CPT Michael McGaffigan
CPT Jason Needler
CPT Kenneth Nickerson
CPT Steven Paulk
CPT Matthew
CPT Reynolds
CPT Ian Sein

VIEW the status of your Officer Evaluation Report @ https://www.isdrad16.army.mil/iwrs/.

Important Dates:

AUGUST

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

SEPTEMBER

S	M	T	W	T	F	S
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20	21	22	23	24	25	26
27	28	29	30			

OCTOBER

S	M	T	W	T	F	S
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4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

FY10 Major board will convene Oct. 14, 2009 for Year Groups 01, 02 and 03.

SPC William Bassat moves an unused bag of ready mix concrete onto the bed of a pickup as part of the completion of work on the ranges.

Space Soldiers PARTNER WITH KNIGHTS OF HEROES

By DJ Montoya, 1st Space Brigade,

LTC Thomas James, commander 1st Space Battalion, high atop his pickup prepares to unload a bale of hay next to what will become an archery range.

DIVIDE, Colo. – This week in the beautiful Colorado outdoors just south of Divide, Colo., 26 boys spanning the ages of seven to 17 from all around the nation are enjoying a once-in-a-life-time camping experience courtesy of a non-profit organization known as the Knights of Heroes in cooperation with the One Good Turn Ranch – and a little help from Army Space Soldiers from the 1st Space Battalion.

Rewind to a little over two weeks ago. MAJ Eric Little, commander of the 1st Space Company, 1st Space Battalion, and a Knights of Heroes foundation member, was looking for volunteer support to assist the Knights in readying the ranch for the boys. Little turned to his comrades in the battalion for help, expecting a detail of only 10 to 12. To his amazement and that of the Knights organization a total of 32 fellow Army Space Soldiers showed up in front of the One Good Turn Ranch Main Lodge on the morning of May 29 ready to do their part for the worthwhile cause.

"The turnout was much better than anticipated. There was plenty of work to be done with the primary goal being construction of an archery, air rifle, and tomahawk range for use by the boys when they come," said Little.

Giving back to the community in his spare time, Little explained the purpose behind the Knights of Heroes.

"It was founded a little over three years ago by Air Force Major Steve Harrold. His best friend Air Force Major Troy Gilbert, an F-16 pilot, was killed while supporting troops in action. Gilbert had two sons and there was a void there when their father passed away. Harrold came up with an idea to provide some support for these boys and sons of other fallen Soldiers."

SSG Christopher Knoth trims a board with a circular saw while SGT Alan Tyson holds it steady. The board is for placement on individual archery and air rifle stalls. *Photos by DJ Montoya, 1st Space Brigade.*

"Basically, we fly the boys to Colorado and spend a week with them doing activities like rock climbing, fishing, canoeing, horse-back riding and other activities. There is a limited amount of grief-work conducted as well, but the primary purpose of the camp is to let the boys rage in the outdoors with peers who share a similar loss all while being mentored by men who care deeply about their future. Family members also have the option to visit Colorado and have an opportunity to visit with other spouses and visit local attractions while the boys are at camp."

The boys and their families for this year's session arrived June 14 and will depart on June 21. The boys attend the camp while the moms and daughters spend the week visiting sights in and around Colorado Springs.

Prior to the setting out to build the range, Little introduced Joey Truscelli who is the owner of One Good Turn Ranch.

"As most of you know we have been filming a television show for the past four years called 'One Good Turn,'" said Truscelli (or "Joey T" as he is better known).

"We are excited to be featuring this story of 26 boys along with the Knights of Heroes, an organization that is simply amazing. These boys all have something in common; they have each lost a father serving our country. This special episode is titled 'Sons of the Fallen.'"

Joey T personally thanked each and every Army Space Soldier from the 1st Space Battalion onsite throughout the day giving them a One Good Turn T-shirt and providing lunch in the form of hot dogs with all the fixings.

"This place we purchased two and a half years ago – it still is a little run down, but every time people like you come out here it helps us a bunch. So we really appreciate you guys."

After getting their assignments, volunteers from the battalion moved into action with the same dedication they have while performing their daily missions of providing Space-based capabilities and products to the warfighters on the ground, only this time it was for sons of the fallen heroes.

Armed with tools, building materials, and some guidance supplied by three members from the Knights' organization, Army Space Soldiers proceeded to clean up around the cabins, move bales of hay and picnic tables, clear dead brush and branches, and build a massive fire pit, all in addition to their main goal of constructing an activities range from scratch.

Loading bales of hay into his truck for transport to the archery range, LTC Thomas James, commander of the 1st Space Battalion, said, "This is exactly the type of community service I've been looking for the battalion to become involved with."

"The whole day was a success as far as I am concerned," said CPT Everetta J. Davis, commander of Headquarters and Headquarters Company, 1st Space Battalion.

"Not only did we get the range complete, but we cleaned up the area and completed a fire pit."

"This will enable the kids to really enjoy themselves and it enabled my Soldiers to see what can be accomplished when you work together. This is an incredible cause and we were so glad to participate in this. Personally, it was great to be doing something for kids and to show Soldiers how satisfying volunteer work can be. We look forward to continuing this type of work."

Would the battalion Soldiers welcome another opportunity to assist? SGT Matthew M. Olevano, Headquarters and Headquarters Company, 1st Space Battalion, put it best with a simple, "Yes."

"We would like to do this type of community service in the future because it allows us to give back to the community and it also allows us to help out and assist family members of fallen Soldiers."

By mid-afternoon Little gathered all of the day's participants around a makeshift campfire to assess the day's accomplishments as a few Soldiers roasted hot dogs over the flames.

"A lot of work was done, and a lot of things were accomplished. If you haven't already done so, I encourage everyone to walk up to the Elk Lodge and take a look at the fire pit many of you dug. It is a good piece of work. We also filled a couple of truckloads worth of dirt to fill holes around the lake, got a lot of the slash piles chopped up and wood moved. Thanks to Lieutenant Colonel Thomas James, commander of the 1st Space Battalion for allowing this to happen."

Little's comments were echoed by the founder of the Knights of Heroes and one of the helpers in the day's activities.

"There are only six of us on the foundation," said Harrold.

"The work you have done today would have taken us probably six weekends to accomplish. It is immeasurable the amount of work you guys were able to accomplish in such a short amount of time. And really, we can't do it without people like you coming out and helping us. Look for the show, sometime in the fall we hope, and you can say 'Well, I built that!' And you will see the smiles on the kid's faces."

James presented Harrold with a battalion coin stating, "The work that you have done for those kids is just amazing. And to give us the opportunity to come over here and be part of this is just as important to us as I think it is to the kids who are receiving your support."

According to Joey T. the end result of the boys experience this week will be aired sometime in the fall on a major network television broadcast.

Legal NCO Dubbed OUTSTANDING ENLISTED of Pikes Peak Region

By DJ Montoya, 1st Space Brigade

COLORADO SPRINGS, Colo. – A Soldier from U.S. Army Space and Missile Defense Command/Army Forces Strategic Command, SSG Nicholas A. Brown garnered the title of Outstanding Enlisted in Category Two (E-5 and E-6) during the 2009 Armed Forces Day Luncheon on May 15. The annual event held at the Broadmoor was sponsored by the Greater Colorado Springs Chamber of Commerce.

Brown, the operations paralegal Noncommissioned Officer in charge, USASMDC/ARSTRAT Operations in Colorado Springs, is only the second command Soldier to capture one of the titles. 1st Space Company 1SG Steven Adams took the title in the Senior Enlisted category last year.

Brown, along with PFC Abner Marrero, human resource specialist, Headquarters and Headquarters Company, 1st Space Battalion, joined ten other finalists in the running for three top outstanding enlisted spots.

The competition is part of the week long Pike's Peak Regional Armed Forces celebration. It allows Space Soldiers to compete head-to-head against the more than 20,000 other men and women in the area from all Department of Defense services, to include active and reserve components, and even Canadian Forces. This year's 12 best included one member from the Canadian Forces, five from the U.S. Air Force, three from the U.S. Air Force Reserve and three U.S. Army competitors.

With all the vetting Brown came to learn about a month ago that he had made it to the finalist stage of the competition.

"I was happy I was named a finalist, but I didn't know I was going to win in my category (E-5 and E-6)," said Brown.

SSG Nicholas A. Brown, operations paralegal Noncommissioned Officer in charge, U.S. Army Space and Missile Defense Command / Army Forces Strategic Command, walks away with this year's title of Outstanding Enlisted in Category Two (E-5 & E-6) during the May 15 Armed Forces Luncheon sponsored by the Greater Colorado Springs Chamber of Commerce. Corporate sponsor Mike Shaw presented the award to Brown as MG Mark Graham, commanding general, Division West, First Army and Fort Carson looked on. The event played to a packed crowd of military, civilian and contractors at the Broadmoor Hall. Twelve enlisted finalists comprised from all the military services from around the Pikes Peak area vied for three top enlisted positions. *Photo by DJ Montoya, 1st Space Brigade*

"Meeting with my fellow finalists, there was definitely some stiff competition. These were really good quality enlisted noncommissioned officers from different services."

As the moment came during Friday's luncheon, Brown was hopeful. His wife Kristen was by his side and very excited, but cautious, prior to the announcement.

"When they called my name I was shocked and then nervous having to go on stage. Everything happened pretty fast."

Brown's supervisor SSG Nicholas Farrand, senior paralegal Noncommissioned Officer for the Command, attended the ceremony and said, "Just as with First Sergeant Steven Adams' win last year in the Senior NCO category, Brown's win in the Year of the NCO is affirmation of the Space Professional/Space Enabler's validity as a Soldier across the full spectrum of NCO leadership competencies."

"It says that USASMDC/ARSTRAT, and the 1st Space Brigade, provide the necessary environment to develop the best, most well-balanced Noncommissioned Officers, of all services, in the Colorado Springs Military Community. His willingness to participate in this competition in this Year of the NCO, even after acceptance to Officer Candidate School and during the final furious weeks of tax season, says that Brown will likely always support, and believe in, the Corps of Noncommissioned Officers."

If there was an edge on Brown's side he pointed to his work by saying, "I guess when I went in front of the board I was very passionate about the tax program."

"I conveyed that to the board members and let them know that it is something I feel very strongly about. I invested a lot of time into it and they could see the benefits as well as I could at that point."

Farrand pointed to the fact that this is the second year that an Army finalist in the E5-E6 category of this competition came from within USASMDC/ARSTRAT - in fact, from within the Chief Counsel Office.

"I'd like to think this will move others to accept that JAG Corps Soldiers are every bit as competent as Warriors and Leaders as those of any other career management field, and that the legal operating environment can be as conducive as any other to the development of Noncommissioned Officer Leaders," Farrand said.

"Last, while it would be selfish of me to linger on this point, it is extremely gratifying to know that I am leading my junior NCOs down the right paths, to success. Two finalists, two years in a row, with an overall winner this year - that kind of result is hard to refute."

According to Brown being a Space Soldier has been a good stepping stone and he hopes to come back to the command. "Maybe even as an FA40 down the road. This is one of the best kept secrets of the Army, for sure!"

By DJ Montoya, 1st Space Brigade

COLORADO SPRINGS, Colo. – "Leading the Way" with a special emphasis on celebrating "2009 The Year of The Noncommissioned Officer" were the key points of emphasis during this year's U.S. Army Space and Missile Defense Command/ Army Forces Strategic Command annual ball conducted Apr. 13, at the Double Tree Hotel.

A number of memorable moments took place, beginning with a standing ovation by a crowd of over 500 following a moving video tribute showcasing the Noncommissioned Officers of USASMDC/ARSTRAT.

Addressing military, Family members, government civilians, and contractors, LTG Kevin T. Campbell, commander USASMDC/ARSTRAT said, "There are a lot of great things about being an American and living in this country."

"But I think that there is one that is sometimes under appreciated. And that is the Non-Commissioned Officers of the United States Army. They are men and women of character, of strong backbones, willing to dig their heels in when they have to dig them in. Willing to find common ground when they have to find common ground. I admire them."

The highlight of the evening took place when 1SG William Edwards, Headquarters and Headquarters Company, 53rd Signal Battalion, and the master of ceremonies for the evening, introduced guest speaker Randy Gradishar.

"Considered to be the heart of the Orange Crush defense that lead the Denver Broncos to the Super Bowl in 1978, Randy Gradishar, number 53, and the new 'patron saint' of the 53rd

Commanding General, LTG Kevin T. Campbell, right, listens intently as Randy Gradishar shares a story at their table during dinner. Gradishar, a former Denver Bronco, was the guest speaker at U.S. Army Space and Missile Defense Command/Army Forces Strategic Command's 2009 Ball. *Photo by DJ Montoya, 1st Space Brigade*

Signal Battalion, played for the Broncos for 10 seasons and earned the reputation as one of the best inside linebackers to play in the NFL."

According to Edwards, Gradishar is active in the local military community. He has visited the troops in Iraq, Afghanistan, and other locations in the Central Command area of responsibility.

"The pride and support he has for our military and his experience in leadership and teamwork on and off the field offers a unique perspective on the challenges and hard work that is required of our Army."

Taking center stage Gradishar elaborated on the ball's theme and it's acknowledgement of the Noncommissioned Officer Corps by defining leadership, particularly for the Space and Missile Defense Noncommissioned Officers in the audience, "My friend Lloyd Lewan … taught me a few things over our tenure and our friendship - the definition of leadership."

"He put it very simple, because as a former athlete, you try to keep things real simple. And I think the same thing applies, even in the military and that is 'Present reality, say thank you, and in the, in-between, just serve. That's leadership.'"

"In looking at that what you understand is that process of being a leader. If you can't value something you can't lead them. And if you can't lead them, you can't communicate to them. And if you can't communicate to them, I guarantee you don't have a team."

Gradishar also touched on a number of areas that this year's celebration of the Noncommissioned Officer highlights when referring to his old coach Woody Hayes at Ohio State who was very instrumental in his life.

"What was it like playing for Woody? He was like a second father. A father you didn't have."

"He talked about relationships. He talked about paying forward 40 years ago. And he had his team and his players assigned from children's hospitals to hospices lined up every Friday to go out for two hours into the community to start paying forward. 'Don't worry about paying back. Don't wait until you get rich Randy. Start paying forward now!'

"There are many coaches like Coach Hayes even today and back then who talked about paying forward or being leaders. Being involved with the community, doing what the right thing is – instilling character is really what it is."

Following Gradishar, top Noncommissioned Officers from the Command were recognized. 1st Space Brigade CSM Kevin McGovern and 1SG Douglas Bram from the 1st Space Battalion were presented with the Order of Saint Dominic the patron of Army Space Operations.

They were followed by SFC Luru T. Berry from the 100th Missile Defense Brigade as he was honored with the Honorable Order of Saint Barbara the patroness of the U.S. Air Defense Artillery.

And the signalers honored one of their own with the presentation of the bronze Order of Mercury to SGM Ralph Martin, 1st Space Brigade, while his wife Cindy received the Bronze Wahatchee Award, which is given to individuals who have voluntarily contributed in a significant way to the improvement of the Signal Corps community.

The formal portion of the event came to a close with the transfer of responsibility for the 2010 USASMDC/ARSTRAT Ball in a ceremonial exchange of a "ball sword" between COL Jeffrey Farnsworth, commander of the 1st Space Brigade, (responsible for this year's festivities) and COL Michael Yowell, Commander of the 100th Missile Defense Brigade (GMD.)

The evening's tributes to the Noncommissioned Officer were best put by Campbell when he said, "You really are the pride of our service and I think you are the envy of the world's Armies, what we have in our non-commissioned officer corps. So thank you very much on behalf of the Chief of Staff of the Army for all you have done, you all you are doing today and all that you are going to do in the future."

Senior NCOs LEAD BY EXAMPLE

By Sharon L. Hartman, USASMDC/ARSTRAT

VANDENBERG AIR FORCE BASE, Calif. — Noncommissioned Officers have long been regarded as the "Backbone of the Army." The history of the Noncommissioned Officer Corps is filled with a rich tradition of pomp and ceremony still observed today. With 2009 dubbed the "Year of the Noncommissioned Officer," it was only fitting for U.S. Army Space and Missile Defense Command/Army Forces Strategic Command's Senior Noncommissioned Officer, CSM Ralph Borja to begin the command's Senior Enlisted Leaders Training Conference with a bit of traditional pomp and ceremony as he conducted a cake-cutting to mark the prestigious declaration.

"This (the Year of the Noncommissioned Officer) has been kicked off since January 2009 all the way up to the present," said Borja, "but I want us as SMDC/ARSTRAT to officially cut the cake, so we can continue recognizing our noncommissioned officers for their commitment, their dedication, their sacrifice."

The cake-cutting took place during the evening icebreaker social which was part of the weeklong conference conducted on Vandenberg Air Force Base, Calif., Mar. 23-26. USASMDC/ARSTRAT Deputy Commanding General for Operations, BG Kurt S. Story took a few moments at the icebreaker to give some advice to the attendees for the week.

"What I'd like you to do is take that big rheostat that's standing in front of you that you might not necessarily see," said Story. "Right now that rheostat on a daily basis is about looking after your Soldiers, looking after your equipment, preparing for war, etc. I want you to dial that rheostat in kind of a selfish direction if you will, and I know this is foreign to most of you, but dial that rheostat toward yourself, and spend the next couple of days enjoying yourself and allowing yourself to grow. Gather some experience and some knowledge (here). Use your intellect. It's rare that you have the time to slow down and do that. Use your intellect to build yourself and make yourself a better professional."

Earlier in the day, many attendees had already begun to enjoy themselves as they participated in the Command Sergeants Major Golf Scramble at Marshallia Ranch Golf Course. Fifteen teams participated in the event with a beginner, SSG David Rogers, winning the putting contest.

The next morning it was time to get down to business as the official portion of the conference kicked off with welcome remarks from Borja, and Commanding General, LTG Kevin T. Campbell. Following their opening remarks, Borja and Campbell proudly inducted SFC Samuel R. Jackson, SSG Benjamin L. Sharp, SSG Christopher L. Barber, and SSG Mark E. Bagwell into the prestigious Sergeant Audie Murphy Club. Sgt. Matthew Funk was also accepted into the Sergeant Audie Murphy Club but was unable to attend the induction ceremony.

The conference drew in senior noncommissioned officers from far-reaching locations of the command including Germany, Japan, Korea, Kuwait and Alaska to name a few. The purpose of the annual event was to carry out a professional forum providing Senior Noncommissioned Officers the education, knowledge and information about new Army/Space Programs as well as build esprit de corps within the command for all Active, National Guard and Reserve components.

To accomplish this task, presenters from various areas of professional development interest for Noncommissioned Officers were brought in to brief attendees, and a panel with former USASMDC/ARSTRAT command sergeants major was conducted. The distinguished panel included SMA (retired), Jack Tilley, CSM (retired) Wilbur Adams, CSM (retired) Reginald Ficklin and CSM (retired) David Lady.

One of the many distinguished presenters at the conference was Command Chief Master Sergeant Thomas S. Narofsky, U.S. Strategic Command, who gave an overview of USSTRATCOM and the role of USASMDC/ARSTRAT within it.

Other highlights of the week included a trip to the Reagan Memorial launch viewing site and the 100th Missile Defense Brigade facility both on Vandenberg, as well as a visit from Army Astronaut, LTC Shane Kimbrough, who recently returned from a stint in Space as a part of the crew of STS-126 Endeavour (November 14-30, 2008).

Chief Master Sergeant Thomas Narofsky, U.S. Strategic Command's Senior Enlisted Leader, speaks to a group of Senior Noncommissioned Officers during U.S. Army Space and Missile Defense Command/Army Forces Strategic Command's 2009 Senior Enlisted Leaders Training Conference. The event was conducted at Vanderberg Air Force Base, Calif., March 23-26.

BELOW FROM LEFT TO RIGHT: BG Kurt S. Story, 1SG Eric Blount, SSG Carmen Cupitt-Marcussen, CSM Ralph Borja, 1SG William Ray ceremoniously cut a cake to celebrate the Year of the Noncommissioned Officer. *Photos by Sharon L. Hartman, USASMDC/ARSTRAT.*

CHANGE OF COMMAND
at Nation's only Missile Defense Brigade

By MAJ Laura Kenney, 100th Missile Defense Brigade (GMD)

FROM LEFT TO RIGHT — Outgoing Commander of the 100th Missile Defense Brigade (GMD) COL Michael Yowell, stands next to BG Thomas Mills, Colorado National Guard Commander Ground Forces, during the change of command ceremony welcoming new 100th Missile Defense Brigade Commander, COL Gregory Bowen.

PETERSON AIR FORCE BASE, Colo. — The unit tasked with the mission of defending the United States against ballistic missile attack – the only unit of its type in the nation – gained a new commander May 15 when COL Gregory S. Bowen assumed command in a ceremony held here.

Bowen, a Colorado Springs resident, assumed command of the 100th Missile Defense Brigade (Ground-based Midcourse Defense) from COL Michael L. Yowell. Bowen was the first commander of the brigade's operational unit, the 49th Missile Defense Battalion (GMD) located at Fort Greely, Alaska, which is armed with the system's interceptors. Bowen stood up the 49th in 2004.

The traditional exchange of the colors marking a change of command took place at the Medal of Honor Memorial Field, with the old and new commanders flanked by the flags of the fifty four states and territories their unit protects.

Yowell handed the gold and teal guidon to BG Thomas D. Mills, Commander of Ground Forces for the Colorado National Guard, who in turn handed the flag to Bowen, signifying the passing of command.

Defending the homeland is historically the mission of the National Guard, and the 100th Missile Defense Brigade is a Colorado National Guard unit. The 100th was stood up by presidential decree in 2003, at an accelerated rate after the terrorist attacks of Sept. 11, 2001. Its subordinate units, the 49th Missile Defense Battalion (GMD) and Detachment 1, located in California, are manned by full-time Guardsmen and women of the respective states. The headquarters, located here, is a multi-component unit with a small contingent of Active Component Soldiers.

COL Gregory Bowen accepts the unit's colors of his new command, the 100th Missile Defense Brigade (GMD) from Colorado National Guard Commander Ground Forces, BG Thomas Mills, during a change of command ceremony. *Photos by SGT Michael Cost, 100th Missile Defense Brigade PA NCO*

A color guard comprised of 49th Missile Defense Battalion Soldiers from Alaska, held the National, State, and Army colors, while Sharon Hartman of U.S. Army Space and Missile Defense Command sang the Star Spangled Banner. The 100th is assigned to SMDC and falls under the operational control of Northern Command for homeland defense. Air Force Gen. Victor E. Renuart, Jr. commander of U.S. Northern Command and North American Aerospace Defense Command attended the ceremony.

Yowell, whose three year tenure in command saw the brigade become operational in response to the threat from North Korea, and who oversaw three successful flight and intercept tests of the system, bid a sometimes emotional farewell to the brigade.

"This is not the first time that Greg and I have stood before these Soldiers and passed the colors of command. The first was three years ago at Fort Greely, on a cold and windy beautiful May morning in Alaska. I was the new Brigade commander, and Greg was leaving a highly successful command – standing up the 49th."

"Shortly after I assumed command, North Korea began stacking missiles. My combatant command, Northern Command, ordered the brigade into operational status. I had to cancel family leaves and military schools. On the 4th of July, 2006, North Korea launched, and the Soldiers of the Brigade in Alaska, California and Colorado stood ready to execute their wartime mission. That launch failed, but the Soldiers of the 100th were ready. The vision President Reagan had of a defense for our nation against ballistic missile attack has been proven several times under my watch, and I'm sure will continue to do so under Colonel Bowen's command."

"The Soldiers of the Brigade are the reason this system has and will continue to be successful. It is they whom I'm most proud of and who I will most deeply miss."

For the last time, Yowell sounded off with the Brigade's motto "Guard … Engage … Destroy – For none shall pass."

Bowen took the lectern for his remarks and drew an immediate laugh when he promised to comply with military tradition and keep the incoming commander's comments short, adding,

"Besides, in the past (looking at his watch) 26 minutes that I've been in command, I have not done anything worth talking about."

"But that will change."

Bowen went on to briefly describe the importance of the unit's mission, and to thank important people in his life, especially his mother Yvonne, who, during his childhood in North Dakota, had "given me a work ethic, set of values, and a love of country that has served me well over the years."

He then told how his seven-year old daughter, Carmen, was "proud that her dad was in the Army, and that he protected her."

"When I was her age, growing up in North Dakota during the Cold War, I recall doing 'duck and cover drills.' While I didn't understand it at the time, I do remember it scaring me. I don't ever want my daughter to be afraid of bad things falling out of the sky, so, Carmen, that's why daddy does what he does."

"The 100th is a unique unit with a unique mission. It is small in numbers, but its mission is strategic in nature. We have to be prepared to execute that mission with no notice, 24/7. To the Soldiers of the 100th, I want to let you know I have only two priorities. Priority 1 is accomplishing our operational mission, every time, all the time. Priority 1A is taking caring of Soldiers and their Families. These two things will focus our efforts as we move forward."

"It's time for me to get off the stage and get to work. Thank you all for coming, and … I'll see you on the High Ground."

MAGNET SCHOOL ATTRACTS
Space and Missile Defense Soldiers

By MAJ Laura Kenney, 100th Missile Defense Brigade (GMD)

1LT Lynsey Yoder, a Colorado Army National Guard Soldier with the 100th Missile Defense Brigade (GMD) teaches a sixth-grade math class about the advanced mathematics and science behind the technology powering the anti-ballistic missile defense system. Soldiers from the unit volunteered to work with a local math and science magnet school as part of a community partnership project, which included summer school. *Photo by MAJ Laura Kenney, 100th Missile Defense Brigade*

COLORADO SPRINGS, Colo.—Varicolored and multi-sized balls collided or more often not in mid-air, whilst foam rockets zoomed zanily on trajectories aimed more or less at a menacing missile mounted on the gymnasium wall. Eager students hunted clues via mysterious machinations on whiz-bang gadgetry courtesy of U.S. Army Space and Missile Defense Command/Army Forces Strategic Command Soldiers.

All of the above and more have been taking place at the Galileo School of Math and Science on a weekly or monthly basis, where Soldiers of the command's two brigades have volunteered to teach applications of their vastly differing sciences to the budding young scientists and mathematicians at this magnet middle school. The sessions are part of a new partnership between Colorado Springs School District 11 and the command. The deal was sealed in a ceremony in March when the Deputy Commanding General for Operations of the command, BG Kurt S. Story, signed an agreement with District 11 leaders in a ceremony held at the school. They signed a formal document, and also a huge banner which combined the emblems of the command and of the school district that was later held up by the children.

Story ambled casually back and forth in front of the bleachers full of children, parents and teachers as he described the partnership and what he expected from it.

"I'm a hands-on kind of guy, so I wish I'd had this sort of help when I was in school. I think having the Soldiers working with the students, showing them applications of math and science in the incredible ways we're using them today, can only be good."

One brigade, the 100th Missile Defense Brigade, Ground-based Midcourse Defense, a Colorado Army National Guard unit on full-time duty with the mission of defending the nation against ballistic missile attack, taught the students about the intricacies of the science behind the "bullet-hitting-bullet" technology of the intercept system. Hence, the multi-hued and sized balls thrown at each other across a volleyball net in mostly vain attempts at collision. The rarity of such a happening was a small example of how hard it would be for one missile to find another in the vast emptiness of Space.

1LT Lynsey Yoder oversaw the (mostly) non-colliding balls experiment. She was very enthusiastic about the children's involvement in the partnership program.

Colorado Army National Guard MAJ Kyle Zablocki watches intently as a student he is tutoring prepares to aim a simulated interceptor at an "incoming" ballistic missile. Zablocki, a member of the 100th Missile Defense Brigade (GMD) a full-time Guard unit tasked with the mission of defending the nation against ballistic missile attack, volunteered to teach students at a local school about the science behind his unit's mission. *Photo by MAJ Laura Kenney, 100th Missile Defense Brigade.*

"First, these kids are brilliant. Before we even began teaching them, they probably knew more about Space and missile defense than your average citizen. As time went on, they'd ask us questions that sometimes we'd have to go back and do research on to give them the correct answer for, so they really gave us a mental workout too. I have a background in teaching, which is why I volunteered for this program, but it ended up being a great experience all around."

Another fun but educational experiment involved shooting foam rockets at a large and looming enemy missile poster hung on the gym wall, simulating how the 100th Missile Defense Brigade's interceptors would actually be employed in knocking out a nuclear missile aimed at the United States. The science of trajectory was discussed, and students were awarded points for how close they physically came to hitting the target.

Sixth grade student Jarod Hawner said, "It's definitely not as easy as it looks. I had to try three times before I came even close to hitting the missile. We used math skills to figure out the best way to launch, from which position, etc."

Another 100th Missile Defense Brigade volunteer, MAJ Kyle Zablocki, described his six-month stint teaching about rockets, saying, no pun intended, "We had a blast."

"All total, (we have done) seven visits. Each visit, we taught eight classes, so in some ways it was literally physically and mentally draining, especially keeping up with these bright kids. My hat goes off to teachers everywhere! But I'm eager to do it again, because engaging these kids in pairing theory with reality was an exciting process. We taught them about what we do as a unit, taught them the science behind it, and then let those fantastic brains of theirs figure out just how hard it really is to do what we do."

1st Space Brigade volunteer CPT Gary Kelly, whose brigade's mission is to conduct continuous global Space force enhancement, Space support, and Space control operations, taught during the recent summer school session. As his command's communications officer, teaching the children how to use the Global Positioning System came naturally.

"We began with a mini-Space Fundamentals course, all about orbits, trajectories, satellites, and Space control – some of the history of the Army in Space and how it all ties in together with our current Space dominance. After that, we narrowed it down to the Global Positioning System and how, although it originated as a military system, it's widely utilized by the civilian world today.

We then got into the details of how to use the system, and learned on the school provided Magellan hand-held navigation devices. We talked about satellites and triangulation, learned about latitude and longitude, map reading and land navigation. All that learning culminated in a 'scavenger hunt,' in which the students had to locate eight landmarks (all located on school property) by grid coordinates using the GPS.

It was very rewarding. I'd say the best part was seeing how a child, when given the opportunity to see how something he or she had learned about conceptually, learns to actually apply it. The kids then took that information and ran with it, taking it to third and fourth level effects. I'd say they were at collegiate level understanding by the time we were done."

Sixth grade science whiz Haydee Rosas commented, "It's seriously cool having Soldiers in here teaching us how they use the science and math that before this, was only in the books."

And not only science and Soldiers were involved - civilians from the command could and did volunteer as well. One such was Melva Tillar, a paralegal from SMDC's legal office who coached the students on public speaking skills.

"I worked with fifth graders in developing their confidence, clarity, eye contact, posture, word choice and delivery. They wrote speeches which they had to deliver in front of their classes, which I then critiqued, using the "Rubric for Speeches."

Much of what we worked on was aimed at their production of school commercials on camera. The students were wonderful to work with, and I enjoyed it thoroughly," said Tillar.

Who ever knew math and science and public speaking could be so much fun?

Army Space Soldiers
Get New Command Sergeant Major

By DJ Montoya, 1st Space Brigade

CSM James N. Ross receives the Noncommissioned Officer's sword from COL Jeffrey A. Farnsworth, commander of the 1st Space Brigade. The action signifies his acceptance of the duties and responsibilities as the new brigade command sergeant major. *Photo by Craig Denton, USAF*

PETERSON AIR FORCE BASE, Colo. – Soldiers from the 1st Space Brigade bid farewell to one senior enlisted and welcomed another during a Change of Responsibility Ceremony in Building 1's small auditorium on base during the afternoon of May 26.

CSM Kevin B. McGovern relinquished his responsibilities and duties for the 1st Space Brigade to CSM James N. Ross with the traditional passing of the Noncommissioned Officer's sword before a packed house to include distinguished guests, Space Soldiers, Family members and civilians.

COL Jeffrey A. Farnsworth, commander of the 1st Space Brigade, said, "It is a great opportunity to recognize the McGovern family for their outstanding service to the Space Brigade and Army Space Soldiers around the world and welcome the Ross family."

The Legion of Merit Award was presented to McGovern for exceptional meritorious service from June 10, 2005 through June 26, 2009 for serving as the command sergeant major for not only his tenure in the brigade but prior service in the 1st Space Battalion.

His wife Carolyn received the Commander's Award for Public Service for her work with the brigade's Headquarters and Headquarters Company Family Readiness Group from January 2007 to May 2009.

Looking back on McGovern's accomplishments in the brigade Farnsworth commented, "What do you say about your right arm?"

"A sergeant major that always anticipates your needs and is there ahead of time. Who sees problems before they really become problems and nips them in the bud. Who goes to no end to get things done? What do you say? So it occurred to me it is all on the Warrior Ethos and the Army Values card."

After expressing his many thanks over these past four years McGovern had two requests for those in attendance by saying, "I would ask of everyone in attendance here today two things."

"The first is to look at this stage today and see the colors and guidons representing a lot of men and women who could not be here and are currently deployed around the world. These colors also represent the men and women from all the different services. Keep them in your thoughts, in your prayers, and I want you to work every day, harder than the day before for each and every one of them."

"The second thing is that everyone in attendance is to support Command Sergeant Major Ross, his wife Ashley, and their family, as you have supported me. Ross is a good technician and tactician. He brings tactical prowess that is going to take this command to the next level."

McGovern now heads to his new assignment in Huntsville, Ala.

Ross, a native of Battle Creek, Mich., enlisted in the Army in September 1985. He has been the Command Sergeant Major for the 1st Space Battalion for the past two years.

"I'm humbled by this opportunity and I look forward to serving the Soldiers of this Command," said Ross. "This is Space 7 entering in orbit on target, first in Space."

JFCC IMD

U.S. Strategic Command's

Joint Enabler for Integrated Missile Defense

By U.S. Navy Cmdr. Chris Walker

SCHRIEVER AIR FORCE BASE. Colo. — On Apr. 5, 2009, as North Korean launch controllers counted down to the lift-off of a Taepo Dong 2 (TD-2) missile purported to be carrying a satellite payload into orbit, half a world away in Colorado Springs, Colo., members of the Joint Functional Component Command for Integrated Missile Defense, part of the United States Strategic Command (USSTRATCOM), were closely monitoring U.S. systems capable of detecting and tracking the North Korean launch.

The Joint Functional Component Command for Integrated Missile Defense (JFCC IMD), a tenant unit, located on Schriever Air Force Base, is a functional component of USSTRATCOM. Commanded by U.S. Army LTG Kevin T. Campbell, JFCC IMD is a Joint command comprised of active duty and reserve members of all four military services. Additionally, the JFCC IMD is supported by a variety of Department of Defense and Defense Intelligence Agency civilians and civilian contractors.

As the TD-2 lifted off the pad in North Korea, several months of intensive planning paid off as a well-exercised Joint team monitored the launch and provided situational awareness to the USSTRATCOM Commander.

"Our planning staff and operations center folks performed superbly," commented Deputy Commander of JFCC IMD, CPT Jeff Bartkoski. "As we go through an event like this, we will be able to leverage past experiences to further enhance our capabilities. As ballistic missiles continue to proliferate, it becomes increasingly important that we mature our ability to protect our homeland as well as our deployed forces, friends and allies."

Primarily responsible for missile defense planning and management, JFCC IMD is known as the Global Synchronizer for Missile Defense. JFCC IMD enables USSTRATCOM to synchronize combatant commander (COCOM) operational and tactical level planning efforts. IMD personnel also make employment recommendations for the allocation of low-density/high-demand missile defense forces and elements to meet COCOM operational needs. In order to accomplish its global mission, IMD coordinates regularly with other COCOMS (including U.S. Northern Command), the Missile Defense Agency and joint service components. JFCC IMD accomplishes these tasks through the dedication and hard work of approximately 120 people, including a full time staff and a 24/7 Operations Center.

JFCC IMD originated in the Implemented Directive issued by the Commander, USSTRATCOM, in January 2005. Since its inception, JFCC IMD has played an integral role in supporting USSTRATCOM and the Department of Defense during events such as Operation BURNT FROST, which leveraged missile defense technology to neutralize a decaying satellite in Space before it could reenter the atmosphere and become a hazard, as well as the North Korean missile launches in 2006 and 2009.

While the North Korean launch was ultimately unsuccessful, for JFCC IMD it was a great opportunity to get real-world mission experience. LTC Tracy Patton was in the JFCC IMD operations center during the missile launch. "Our personnel and systems performed very well. The ballistic missile defense system is complex and we are constantly training and testing. It requires a significant amount of cross-COCOM coordination and participation. We learned a tremendous amount throughout the course of this event. It was exciting to see everything come together."

BIO

U.S. Navy Cmdr. Chris Walker is the director of the JFCC IMD Current Operations Section where he is responsible for leading support to crisis action and missile defense planning.

A TALE OF TWO ARSSTS

By DJ Montoya, 1st Space Brigade

CHAPTER 1

ARSST Team 26 Deploys into Theater

A small but very important ceremony was conducted back in late July for a small but very important group of people. To close out the momentous ceremony, Suzanne Buemi, Family Assistance Center Coordinator, Colorado National Guard Family Program, made a traditional presentation of a Colorado state flag to deploying Army Space Support Team 26 leader, MAJ Tod Fenner, 217th Space Company, 117th Space Battalion Colorado Army National Guard.

"We want you to fly it proudly," said Buemi. "Just know there is home that is with you forward from back here."

The deployment ceremony, conducted at Peterson Air Force Base's Building Three, ended months of training and preparation for team members: Fenner; MAJ Janet Schoenberg, Space Operations Officer; SSG James Smith, intelligence analyst and team noncommissioned officer in charge; SPC David Wilde, satellite communications; SPC Andrew Pyle, geospatial analyst; and SPC Eric Geil, information systems.

Their mission is to replace their sister unit ARSST 27 which has been assisting the Marine Expeditionary Forces in theater. For the next eight months, ARSST 26 will provide Space-based capabilities to the warfighter on the ground in areas such as imagery, Space weather, position, navigation and timing and satellite communications.

"We are just getting started," said Fenner. "And the success we achieve will be based on being the best we can be and trying to find new ways to leverage Space to save lives … that is the bottom line."

In addition to rigorous training, team members also had a brief moment in the limelight back on May 27 when ARSST 26 was singled out to meet briefly with Dr. Jill Biden, wife of Vice President Joe Biden, during a stopover in Colorado Springs.

"I first got word from Lieutenant Colonel Don Laucirica, Office of the Assistant Adjutant General for Space, Colorado National Guard."

"He said 'I got a call from the vice-president.' And I said the vice-president of what? He said 'the vice-president.' Of a company? 'No. The vice-president of the United States.' It was definitely a shock."

The team met with Dr. Biden on the tarmac at Peterson Air Force Base with Air Force Two in the background.

"Her son is in Iraq. He is a captain in Baghdad with JAG and she has a lot of compassion for deployed Soldiers and their families — she certainly expressed that."

And just when ARSST 26 members thought it was over, Vice President Joe Biden came over to personally greet each one.

For Smith it was an honor to meet both of them, "They are down to Earth people. Both of them showed that they care about the Soldiers."

"Dr. Biden talked to each of us. And the Vice President actually said 'Come here sergeant, I'll take a picture with you.' It was wow; I'm actually standing next to the Vice President, second in command!"

"I was surprised," said Pyle. "When you see them on TV it is not how it is when you see them up close and in person. They spent a lot of time with us. Believe me it was an honor."

But even with this brief moment remembered from a couple months ago team members such as Smith and Pyle are ready to do the mission.

According to Pyle, "I just can't wait to get into country and start doing my job."

As part of the deployment ceremony LTC Matthew Nowak, commander of the 117th Space Battalion, told team members and their families," This team is deploying to support the Marines - a continuing mission for the 117th as we go forward."

"These Soldiers have worked hard with the team that is over there right now as part of the transition. I really look forward to seeing what they are capable of. When they went through their certification they did a really good job as part of that and I can't ask for a better prepared team to go forward to do this and to support this mission."

COL Jeffrey Farnsworth, commander of the 1st Space Brigade, told the team, "We don't expect you to be kicking down doors or doing high value target actions, but you should be enabling those that do, along with their Iraqi partners to succeed, find, capture, and whatever else is required against our adversaries. So thank you very much for your dedication and your commitment."

CHAPTER 2 *ARSST Team 27 Returns Home from Theater*

No sooner had the 117th bid farewell to Soldiers with the ARSST 26 when they found themselves along with Family members and friends welcoming home members of ARSST 27 on the evening of July 22 at the Colorado Springs Airport.

Red, white, and blue American flags, and signs of "welcome home" greeted returning Space Cowboys MAJ Joseph Paladino, CPT Benjamin Howe, SSG Joseph Brusky, SSG Jeffrey Flora, SGT Patrick Sawyckyj and SPC Bennie Dennis.

It would be seven more days until these Space Soldiers got an official greeting with all the trimmings during an early morning ceremony held in front of 117th Headquarters at 1670 North Newport Road, July 28.

ARSST 27 supported combat operations for the I Marine Expeditionary Force Forward and II MEF, from Dec. 20, 2008 to July 22. During this period, detailed operational planning and execution was instrumental to the introduction and rapid dissemination of over 1,800 Space enabling products to all levels of the Multi-National Force-West Command Elements enabling successful execution of combat operations in Al Anbar Province, Iraq.

The team had tremendous impact on the overarching success of counter-IED programs and is directly attributable to an increase in force protection, defeat of IEDs, and the marginalization of Al Qaida in Iraq throughout the area of responsibility.

BG Thomas Mills, commander of Ground Forces for Colorado National Guard said, "What they have done basically has provided the forces on the ground – coalition forces – the ability to be more effective while the enemy is less effective."

"To make sure we have less casualties and it is all based on the Space products that they provide. But more importantly, I would just like to recognize each and every one of these Soldiers for their patriotism, for their focus, and for their professionalism. This is not a task that every Soldier can do. They are a special breed able to do this job day-in and day-out providing the finest in capabilities for our forces."

ARSST 27 also exercised commendable initiative by providing non-doctrinal Space support to civilian agencies which directly contributed to improving and sustaining agricultural reconstruction efforts in the area of responsibility. These accomplishments were made possible through the team's expert use of various military and civilian imagery capabilities.

COL Dana Capozzella, brigade commander, 89th Troop Command, COARNG, said, "I think Space is the cutting edge and we need to continue to develop and exploit the skills that your teams can give to the rest of the military."

ARSST 27's dedication, teamwork, decisiveness, technical and tactical knowledge ensured that no element within the MNF-W staff or major subordinate command was ever without the critical Space enhancement to support ongoing combat operations. The team's efforts in integrating Space-based capabilities into various operations greatly enhanced efforts to defeat anti-coalition forces, enable Iraqi Security Self Reliance, and support a free and democratic government in Iraq.

"As the federal mission commander for this team, I have to say we are truly in the 1st Space Brigade a multi-component organization," said COL Jeffrey Farnsworth, commander of 1st Space Brigade.

"It is hard to find another organization that folds in the National Guard, the Army Reserve, and the active forces into one unit which organizes, trains, and equips one team and delivers that force to our warfighting mission seamlessly whether that team comes from the National Guard, Army Reserve or active force. And I'll tell you this team has met the standard -- exceeded it in many cases. It is a seamless organization. And I'm proud to have the Space Cowboys as part of the brigade, and this team in particular, enabling our success."

Afterward, LTC Matthew Nowak, commander of the 117th Space Battalion presented the team members with numerous awards and recognitions for their service during Operation Iraqi Freedom. Among the chief honors given was the Bronze Star Medal presented to Brusky. Paladino and Howe were awarded the Meritorious Service Medal. Flora and Sawyckyj received the Army Commendation Medal. And Dennis was awarded the Army Achievement Medal. Paladino and Flora also received the U.S. Air Force Space Badge.

Paladino closed out the ceremony by thanking fellow team members for their valuable contributions and telling the audience, "I'm proud to say the Soldiers standing before this morning set the standard for Space operations and made a lasting impression to the Marines and significant contributions to the war on terror."

Candidates perform various tasks throughout the competition.

Above Photos by Michael Kahl
USASMDC/ARSTRAT

Photo by Sharon L. Hartman
USASMDC/ARSTRAT

Next on the agenda was a written exam followed by an afternoon at the weapons range, again hosted by the 1st Space Brigade. Although the drenching rain from the previous week had let up for the afternoon, wind gusts up to 30 miles per hour made zeroing and qualifying quite a challenge for the competitors.

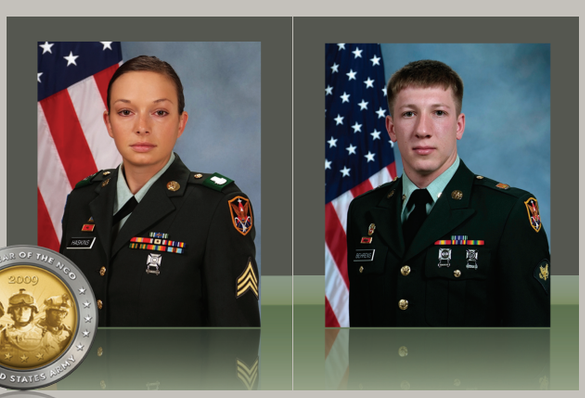
The Urban Orienteering courses followed on Tuesday managed by members of the 100th Missile Defense Brigade (GMD). In this event, candidates were trained on and given Defense Advanced GPS Receivers as they navigated their way to various points in both day and night courses.

The following day began in the dark early morning hours. An extended convoy of tactical vehicles sloshed through rain soaked roads, mud caking thicker and thicker around wheel wells, as they made their way to the Military Operations on Urban Terrain site. This is where the grueling Situational Training Exercise event would soon take place.

The first candidate was briefed and then given 30 minutes to rehearse with their unit before heading into the unknown to be watched and graded by an Observer/Controller. As each candidate left, the next one was brought in to begin the 30 minute brief and rehearsal period before they too would depart to face a stream of events and encounters with the enemy, the ultimate goal - the rescue of a sheik held captive at the overrun Embassy.

As the candidates began maneuvering their unit through the course, a nearby "mosque" reverberated with music. Gunfire and mortar rounds could be heard in the distance. The first encounter with the enemy came just beyond the mosque. Shots rang out and the candidate along with team took cover returning fire and quickly taking out the opposition. The group then cautiously made their way down the lane only to find a car ablaze from a

Western Region NCO and Soldier Competitors



SGT Sarah Haskins
4th Space Company,
1st Space Brigade,
Peterson Air Force Base, Colo.

SPC Kyle Behrens
Headquarters & Headquarters Company,
53rd Signal Battalion,
Schriever Air Force Base, Colo.

Eastern Region NCO and Soldier Competitors

SSG Matthew S. Davidson
Bravo Company,
53rd Signal Battalion,
Fort Meade, Md.

SPC Roy E. Dilworth III
Bravo Company,
53rd Signal Battalion,
Fort Meade, Md.

"roadside bomb." A "victim" lay nearby in agony from "burns" to nearly half her body. After tending to the victim and calling in for a medevac, the candidate again cautiously proceeded on with their unit.

Near the "hospital" more enemy gunfire rang out and once again the candidate returned fire neutralizing the enemy. Adding to the action this time, two figures ran out of the hospital screaming in fear and convulsing to the ground. In less than ten seconds, the convulsions stopped as the victims lay still. By that time, the team knew there had been a chemical attack and were already masked to protect themselves.

The candidate directed the team to hastily move out of the contaminated area and continue down the lane. Just ahead a "burning" U.S. helicopter was seen strewn across the middle of the road. As the candidate quickly drew closer screams could be heard from inside, as two "injured" crewmembers lay helpless within the burning wreckage. The candidate, with assistance from their unit, quickly extricated the wounded Soldiers and provided medical assistance, once again calling for a medevac.

Finally, the Embassy was in sight. Candidates guardedly led their team into the building, clearing room after room and sporadically meeting close fire. Eventually the sheik was recovered safely in the basement as enemy combatants lay "dead" throughout the building. It was a successful end to a long and taxing day.

The following day held the culminating event for the competition. Although less physically demanding than the preceding event, the board appearance was just as stressful. Rapid fire questions from a panel of Command Sergeants Major tested the knowledge and mental toughness of each competitor.

The events over, the selection of winners was announced during a standing room only ceremony at Peterson Air Force Base Building Three's training rooms. SGT Sarah Haskins was selected as the 2009 USASMDC/ARSTRAT Noncommissioned Officer of the Year, and SGT Travis Parsons was named the 2009 USASMDC/ARSTRAT Soldier of the Year. (Parsons was promoted to the rank of sergeant after he began competing for the Soldier title.)

Haskins, a Signals Analyst with 4th Space Company, 1st Space Battalion out of Peterson Air Force Base, Colo., represented the Western Region and Parsons, a Satellite Network Controller from Echo Company, 53rd Signal Battalion in Okinawa, Japan, represented the Pacific Region. The selectees, two will head out to Fort Lee, Va., in September to represent USASMDC/ARSTRAT at the 2009 Department of Army Best Warrior Competition.

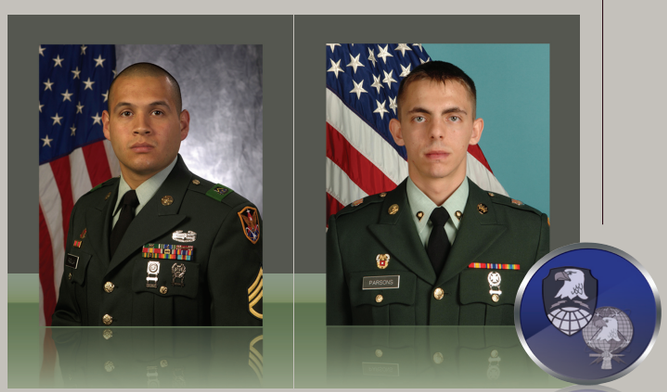
The other competitors for the title were European Region NCO of the Year – Staff Sgt. Jonas Moody, 1st Space Company, 1st Space Battalion (first runner up); Pacific Region NCO of the Year – Staff Sgt. David Padilla, 1st Space Company, 1st Space Battalion (second runner up); Eastern Region NCO of the Year - Staff Sgt. Matthew S. Davidson, Bravo Company, 53rd Signal Battalion (third runner up); Western Region Soldier of the Year – Spc. Kyle Behrens, Headquarters and Headquarters Company, 53rd Signal Battalion (first runner up); Eastern Region Soldier of the Year Spc. Roy E. Dilworth III, Bravo Company, 53rd Signal Battalion (second runner up): and European Region Soldier of the Year – Spc. Matthew Heard, Charlie Company, 53rd Signal Battalion (third runner up).

European Region NCO and Soldier Competitors

SSG Jonas Moody
Bravo Detachment,
1st Space Company,
U.S. Central Command at time
of Regional competition.

SPC Matthew A. Heard
Charlie Company,
53rd Signal Battalion,
Landstuhl, Germany

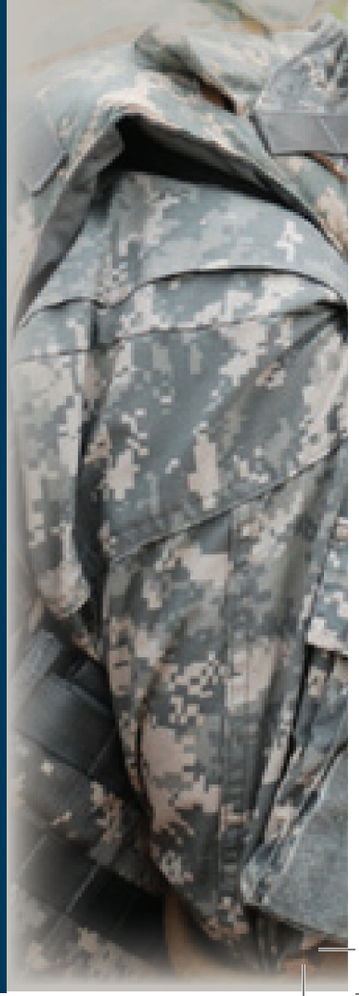
Pacific Region NCO and Soldier Competitors



SSG David Padilla
Delta Detachment,
1st Space Company,
1st Space Battalion,
Misawa Air Base, Japan

SGT Travis D. Parsons
Echo Company,
53rd Signal Battalion,
Okinawa, Japan

USASMDC FEATURES



Top NCO, Top Soldier Selected

to Represent at DA Best Warrior Competition

By Sharon L. Hartman
USASMDC/ARSTRAT

PETERSON AIR FORCE BASE, Colo. — Overcast skies and muddy terrain could not stop four enthusiastic Noncommissioned Officers and four Soldiers from gutting it out during the 2009 U.S. Army Space and Missile Defense Command/Army Forces Strategic Command Noncommissioned Officer and Soldier of the Year Competition. The weeklong event, conducted May 30 - June 4, was comprised of a variety of events to test the physical and mental strength of eight competitors. The eight competing for the title were from various USASMDC/ARSTRAT units around the globe, representing the Western, Eastern, European and Pacific Regions.

The grueling competition began on Monday with an Army Physical Fitness Test conducted by the 1st Space Brigade. The pushups and sit-ups were fairly typical, but running two miles at an altitude of more than 6,000 feet above sea level was something new for a several candidates coming from much lower elevations.

Flipside

USASMDC FEATURES

COMPETING TO BE THE BEST

NCO AND SOLDIER OF THE YEAR COMPETITION