

Up, up and away!

The Hypersonic International Flight Research and Experimentation (HIFIRE) program successfully completed its second flight from Woomera, Australia March 22. HIFIRE is a joint effort between the Air Force Research Laboratory and the Australian Defense Science and Technology Organization. According to Tom Fetterhoff, AEDC's technical director for the Technology Division and executing agent for the Office of the Secretary of Defense-sponsored Test and Evaluation, Science and Technology Program Advance Propulsion Test Technology (APTT) area, the Test and Evaluation, Science and Technology program has partnered with AFRL and the HIFIRE program to develop and demonstrate advanced non-intrusive flight instrumentation. Placed aboard on this flight was a non-intrusive mass capture measurement system to test and evaluate hypersonic vehicles since traditional intrusive probes would significantly alter the air flow and therefore the system's performance. A second flight is scheduled later this year and will measure for scramjet engine combustion efficiency. (Air Force photo)



Fifth grade enrichment students from Cowan and Broadview elementary schools in Franklin County conduct an experiment to determine how drag can affect an object's speed. (Photo by Rick Goodfriend)

New STEM program designed to inspire the next generation of engineers underway at AEDC

By Darbie Sizemore
Senior Public Affairs Specialist

The next generation of engineers and scientists has just started their educational journey.

Today they are solving multiplication and division problems and learning basic scientific principles, but one day they will be the designers of the next generation of flight vehicles or weapon systems. They will be the ones who colonize the moon, make supersonic travel common and connect our world in ways we have not yet imagined.

A new initiative at AEDC is striving to expose students to science, technology, engineering and mathematics and get them excited and thinking about a future in this critical field.

"Our ultimate goal is to inspire the next generation," said AEDC Commander Col. Michael T. Panarisi. "We are living on the accomplishments of an entire generation who was inspired by the space race. The next quantum leap in aerospace will come from the minds of the children we are targeting right now."

Unfortunately, even as early as elementary school, students are balancing class work, sports, church activities, the latest video games and television shows, as well

as everything on the Web. It's much harder now to get them excited about their future careers and commit to the work it will take to succeed in 15 or 20 years.

"There is so much competing for children's time and attention now," the colonel said. "We really want to get into that line and give these children the opportunity to explore what Tennessee calls STEM – science, technology, engineering and mathematics. We are looking for an entry as early as possible. We know it takes a lifetime of learning to be a 'game changer' in any field. When you think about it, it's a pretty tall order to build a pro baseball player if they pick up the bat for the first time in eighth grade. It's the same problem in technical fields. We have a perfect environment here where we can show them the results of that lifetime of learning."

Colonel Panarisi's passion for education is rooted in his belief that it is literally an issue of national defense.

"From a national asset and test perspective, we need a large pool of excited, interested, inspired engineers, mathematicians and scientists to sustain the capability we have here. But this is way bigger than AEDC. Not only do we need that population to grow locally; this is a need across

See Program, page 4

First vertical flight of F-35B is welcome news at Arnold

By Philip Lorenz III
Technical Writer

The recent first vertical landing of the Short Takeoff/Vertical Landing (STOVL) F-35B Lightning II Joint Strike Fighter at the Naval Air Station Patuxent River, Md., resonated with engineers at AEDC.

"This is a real exciting time for the F-35 program," said John Kelly, project manager with AEDC's 717th Test Squadron. "Pax River has completed the

first vertical landing of the F-35 in-flight test and Edwards AFB will be ramping up their flight test operations soon."

Kelly pointed out that AEDC has had a direct effect on that flight and one that will provide confidence for upcoming flight tests.

"The AEDC community should view these events as personal achievements," he continued. "'Test Before Flight' is a pretty strong statement and not many people realize how much

testing is involved prior to a flight. Recently, while testing an F135 Conventional Take Off and Landing (CTOL) variant, AEDC surpassed the 3,000 hour test mark during the early hours of the morning on March 24 while everyone else was probably still asleep."

The F135, which is the primary propulsion system for the F-35 Lightning II aircraft, has been

See F-35B, page 5

Area citizens advocate for AEDC in the nation's capitol

By Kathy Gattis
Special Report for High Mach/Jacobs

Community leaders recently traveled to Washington, D.C., and walked the halls of Congress to advocate for AEDC.

Arnold Community Council (ACC) organized a group of 24 people for the trip, including three elected officials – Coffee County Executive, David Pennington; Manchester Mayor, Betty Superstein and Tullahoma Mayor, Troy Bisby. The group asked lawmakers to fund two military construction projects and establish a special trade zone for AEDC to increase workload at the base.

In two weeks, several team members will return to the nation's capitol to help 4th District Congressman Lincoln Davis and Tennessee's Senior Senator, Lamar Alexander, lead the effort to garner support for the ACC-requested special trade zone for AEDC.

"We would like to make it less expensive and cumbersome for commercial, international and government customers to test at AEDC," ACC vice president and former AEDC commander and retired two-star general Mike Wiedemer said. "The ACC is asking the government to give more flexibility to the AEDC commander to negotiate customer rates and

to provide greater stability for the AEDC budget."

Wiedemer's idea was to remove International Traffic and Arms Regulation (ITAR) restrictions for a period of five years at AEDC by establishing a special trade zone. The ACC believes ITAR is one of the reasons some customers (national and international) are choosing to test with competitors who don't have the extra red tape and delays associated with testing at AEDC because of ITAR.

"For many years, the ACC has made this trip to DC and typically lobbied for military construction projects to assist in keeping AEDC in a strong position to take on more testing opportunities," said Steve Cope, chairman of the ACC Legislative Affairs team. "This year we wanted to highlight issues that are keeping AEDC from increasing its mission and wanted to assist in breaking down those barriers that might be preventing AEDC from growing its test load."

The establishment of a Special Trade Zone was one part of the request. ACC also wants 75 percent of AEDC funding moved to the Science and Technology budget because it's a more stable source for research and development dollars. The group also says AEDC's mission naturally falls



Congressman Lincoln Davis (left) talks with ACC Legislative Affairs Chairman Steve Cope (middle) and ACC President, Bill Comer (right) at a breakfast sponsored by the community council for elected officials and staffers. A group of ACC members traveled to Washington recently to advocate for AEDC. (Photo by Kathy Gattis)

under Science and Technology instead of Operations and Maintenance where the funding currently resides.

ACC President, Bill Comer,

says the group is keenly aware of AEDC's nearly \$1 billion economic impact on southern middle Tennessee, but community support for Arnold AFB is about

national concern as well.

"First and foremost, we support AEDC because it is an essential

See ACC, page 4

HIGH MACH

Arnold Engineering Development Center
An Air Force Materiel Command Test Center

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Commander

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The center's vision: AEDC as the test center of choice, the workplace of choice for our people and a model of environmental excellence.



Vision

"ATA will be a trusted partner in delivering best value warfighter support and assert stewardship to AEDC"

Core Values

- Be accountable for our own actions
- Ensure the safety of individuals and equipment
- Demonstrate the highest integrity and ethical standards
- Communicate clearly and openly
- Deliver professional and technical excellence
- Nurture, enable and treat people fairly
- Align with customer goals and objectives
 - Use disciplined and innovative processes
 - Continually improve in all that we do



Core Values

- Integrity first
- Service before self
- Excellence in all we do

Spring showers ... what are you planting?

By Col. Michael Panarisi
AEDC Commander



Panarisi

They tell me spring has finally sprung here in middle Tennessee. So now that we've put the shovels and scrapers away for good, it's time to turn our thoughts to the warmer days ahead and the rejuvenation we always look forward to this time of year.

Some know this time of year as the beginning of the planting season, and I'm no different. Except I have a slightly different perspective on this ... I'm not really much of a farmer, so my question to you is ... What are you planting?

There's a famous quote about leadership that refers to the fact that we are always leading, whether we know it or not ... even

if we don't intend to, we might be leading someone astray. So much of that revolves around the example we set for our subordinates, co-workers and colleagues.

But that's a rather passive activity. I'm more interested in the active role we play in each others' lives. In the spirit of spring, I'm talking about reflecting on, and then act-

ing on what you can do to ensure a good "harvest" in the future. In this case, you have an active role in the "seeds" you plant with every contact you make. So again, I ask, what are you planting?

Are you taking classes to improve your skills or knowledge in a particular topic? Are you cultivating relationships that you can rely on in the future? Are you mentoring your subordinates and co-workers to pursue new skills or to deepen their understanding in a field they are already "experts" in?

This is about choices and deliberate actions we must make to grow. If we don't plant the seeds for ourselves and in our workplace (not to mention our homes!), we can't expect

a bounty later on. It's even deeper than this. It's a fundamental leadership responsibility. If you are in a formal leadership position, job one is finding, developing and growing your replacement. They won't plant themselves, and we need to tend to these crops regularly.

OK, maybe all these agricultural metaphors sound a little "corny." But think about it. They really do apply to our activities here. In this business, the status quo is already obsolete. General Arnold's vision was an Air Force "Second to None."

This won't happen without our conscious efforts to take our capabilities to the next level. A big part of that is caring enough to invest in ourselves, and our teammates.

And in the spirit of caring, please keep those who have recently endured a painful departure from our family in your prayers. They need us more than ever. In the near future, many of our active duty members will be faced with some tough choices too, as the Air Force continues to work toward meeting the force reductions programmed in the defense budget. In times like these, it's too easy to hunker down and look out for "the ol' #1."

I challenge all of us to do just the opposite. This is the time to reach out. A kind word, an unexpected call or a surprise visit will really make a difference. The seeds you plant in those fields are the most important of all.



Carl Desrosiers straps in Staff Sgt. Mareshah Haynes into a mono-ski March 28 outside the Silvertree Hotel in Snowmass Village, Colo. Sergeant Haynes is a print journalist assigned to the Defense Media Activity-San Antonio. Mr. Desrosiers is a ski instructor of 23 years covering the 24th National Disabled American Veterans Winter Sports Clinic. The event is sponsored by the Department of Veterans Affairs and Disabled American Veterans. (Photo by Staff Sgt. Desiree N. Palacios)

The power of the human spirit

By SSGt. Mareshah Haynes
Defense Media Activity-San Antonio

Snowmass Village, Colo. (AFNS)—The human spirit is truly indomitable.

If I ever questioned that fact, the 2010 Disabled Veterans of America Winter Sports Clinic answered it for me.

During my assignment to cover the week's events March 28 through April 2 here, I saw some amazing examples of just how strong the human spirit is.

When my team and I arrived at the airport in Aspen, the veterans were already getting off of the plane, anticipating the week's sporting events, seeing old friends and meeting new ones. I helped the team of Airmen who volunteered to help disabled veterans off load the plane and a teammate and I boarded the plane with an airplane accessible wheelchair.

We arrived at the seat of an Army veteran from San Antonio. He was paralyzed from the waist down and we assisted him from his plane seat to the wheelchair. While I fastened the lap straps on the chair, my teammate fastened the chest straps and engaged the veteran in conversation. After

a few verbal exchanges, my teammate asked the veteran, "So what events are you competing in?"

With a grin that spoke volumes more than his response, he said, "Whatever they let me compete in."

We rolled him down the ramp from the plane to the runway and got him situated in his own chair. He grabbed his bag, shook our hands and rolled off into the airport to begin his adventure.

After seeing dozens of these veterans with the same attitudes, it honestly began to inspire me.

These people who have incurred traumatic brain injuries, lost limbs and even eyesight didn't feel sorry for themselves. They were here proving there is life after injury. They were proving that even though life has changed, it doesn't have to stop. They were proving that the spirit is stronger than the body and it can persevere even when the body has been weakened.

Once we were on the slopes, my amazement continued. I saw a man who looked to be in his late 60s, skiing down the down the mountain. That may not be seem like anything special, until you realize that this man is a blind veteran.

I watched a newly in-

jured veteran, medically retired at the age of 19, ski for the first time since his injury in 2007. Most young men his age are at their peak of physical health, while he has to travel hundreds of miles from his home in Washington for therapy in California. Still, he's excited to be here.

A woman who was injured in a horrific car accident while on active-duty has been attending the winter sports clinic for eight years. The doctors told her family there was a 5 percent chance she would live and if she did she would be in a vegetative state. She attributed her recovery to the Air Force doctors and the support of her family. I can't help but think an indomitable spirit has something to do with it as well.

I could go on and on about the caliber of people I've met in this short time. To know that these people are my brothers-and sisters-in-arms makes me want to go that extra mile for them.

They have truly made an impression on me and shown me just what an indomitable spirit can really accomplish.



"Since You Asked ..." is a question and answer-type segment where AEDC personnel - military, DoD civilians and ATA contractor and subcontractor employees - are asked random questions about every day topics. The opinions displayed do not necessarily reflect the views of the Air Force, DoD or ATA.

What did you want to be when you grew up? Why?



Katie Tedford
Financial Management Analyst

"Teacher because I enjoyed school and learning."



2nd Lt. Wes Meredith
APTU Project Manager

"Inventor because I liked to make things and figure out how they worked."



Betty Spray
Contract Administrator

"Don't know - haven't gotten there yet."



Stephen George
FRC on-site Project Manager

"Pharmacist - I liked our local one and thought they made a lot of money."

Smoking Policy

1. The following revised AEDC smoking policy is effective immediately. Smoking is permitted solely in designated areas identified by a plastic "smoke genie." This receptacle is for the sole purpose of cigarette butt disposal. If there is no receptacle, you cannot smoke in that area. It is the responsibility of all smokers to clean up the area surrounding the receptacles for any cigarette butts on the ground. Smoking in government-owned vehicles is strictly prohibited. Personnel are allowed to smoke in their personal vehicles at any time. In case of inclement or cold weather, employees are encouraged to use their personal vehicles if a sheltered designated smoking area is not available nearby. Smoking areas will be held to the absolute minimum and will be located in low traffic, low visibility areas away from points of building ingress/egress and air intakes. A map of all authorized smoking areas is available on the AEDC web portal at https://papro.arnold.af.mil/PORTAL/images/Smoking_area_map.pdf. Smoking near a facility in an area not designated on the map is prohibited and any smoking receptacles located in areas not shown on the map will be removed. All "smoking permitted" and "no smoking" signs will be removed unless specifically required by OSHA.

The fact a person smokes has no bearing on the number of breaks they may take. Breaks should be taken in accordance with the company/agency personnel policies that apply to all employees.

Regarding use of smokeless tobacco, containers of tobacco waste product, including sealed containers, must not be left unattended or disposed of in trash receptacles. Users of smokeless tobacco must flush tobacco waste down the toilet. Smokeless is strictly prohibited in conference room meetings and other areas, e.g. PMEL, where Air Force regulations specifically prohibit.

2. Supervisors at every level will ensure this policy is followed. Disciplinary action is appropriate for repeated violations.

3. Updates to this policy will be made in the future to further align with Air Force guidelines.

4. This letter supersedes previous letter dated 28 October 2006, subject as above.



Lt. Col. Peavy assumes command

Left, Col. James Jolliffe, commander of the 704th Test Group, hands over the squadron flag to Lt. Col. James Peavy, who assumes command of the 717th Test Squadron. In July 2009, Colonel Peavy was assigned to Arnold as the deputy commander of 704th Test Group. Before coming to AEDC, Colonel Peavy spent time as a command liaison and focal point for test in the National Intelligence Community while living in Washington, D.C. He has more than 16 years experience in flight test, hands-on engineering and operational capabilities development and fielding for the Air Force and other agencies. His background is in testing aircraft, space control and information operations systems, from concept demonstration through operational test and employment. He briefly worked for Boeing in Huntsville, Ala., designing the International Space Station. He holds degrees in aerospace and mechanical engineering and has more than 250 flight hours in 30 plus aircraft. He has been crew qualified in fighter, cargo, helicopter and jet trainer aircraft. (Photo by Rick Goodfriend)

Military force management plan reduction to continue despite other initiatives

Fellow Airmen:

Secretary Donley and I are proud of the tremendous contributions you make every day to secure our nation. We recognize and appreciate the sacrifices that are asked of you and your family. Now, the Secretary and I must make a difficult decision for the health of the Air Force family.

Air Force retention is at a 15-year high, despite an incredibly robust operations tempo. We are nearly 5,000 Airmen above our authorized, funded end strength ceiling. Career fields are overmanned in certain year groups, while at the same time, we have critical manning shortages in some of our most stressed career fields and mission areas. We must correct these overages and skill imbalances by sizing and shaping our force within our authorized, funded ceiling.

As you know, in November 2009 we offered a variety of voluntary measures aimed at reducing personnel numbers. Unfortunately, not enough people took advantage of those programs. Thus we had to make the tough decision to move forward on a plan to shrink the active duty force by almost 3 percent. Although it will be a challenging time, our goal is to minimize the impact on Airmen currently serving. We are reducing accessions for both officers and en-

listed Airmen while expanding voluntary separation and retirement programs to try and protect those currently serving. Where possible, we will cross-flow Airmen from overmanned career fields into those that are undermanned, and, where appropriate, we will implement involuntary measures.

More information on this multi-tiered force management effort is available on the Air Force Personnel Center Web site. Voluntary programs will allow personnel to leave the service immediately; non-voluntary programs will start this summer with departures targeted for no later than April 2011. I encourage all of you to go to the AFPC website and review the programs that may impact you and your families.

Please know the Secretary and I have carefully considered every option, but in the end, arrived at the conclusion that these force management initiatives are necessary. We must operate within our means. Our commitment – and the commitment of leadership at all levels – is that we will do everything we can to assist those transitioning to the next phase of their careers.

Norton A. Schwartz
General, USAF
Chief of Staff

AEDC plans for natural gas system privatization

By Shawn Jacobs
Public Affairs Specialist

AEDC has taken an important step in the privatization process by entering into a contract with the Elk River Public Utility District (ERPUD) to replace the base's natural gas distribution system.

Privatization is essentially the sale or transfer of a current utility system owned by the government to a private sector utility operator. It includes transfer of assets as well as long-term operation and maintenance.

The project involves replacing the entire natural gas system, including shutoff valves, pressure reducing valves and relief valves, with special attention to be placed on the underground piping. The AEDC gas distribution system consists of approximately 10,000 linear feet of piping.

Technical Director of the 804th Maintenance Squadron and Utilities Privatization Program

Manager Bob Walker Jr., said the \$1 million project was funded by the Air Force Civil Engineering Support Agency. The money is designated specifically for utility privatization.

"The secretary of defense years ago declared that all DoD facilities would begin a study to privatize utilities," Walker said. "It was believed that utility operation and maintenance wasn't a core function of the Air Force, and while we had civilians and groups at all the bases doing that work, we're in the war-fighting business and not the distribution of water and power."

Walker said ATA has done an excellent job in managing the distribution of utilities, but privatization is the order of the day.

Eddie Moffitt, manager of operations for Elk River Public Utility District wrote, "ERPUD has provided natural gas to the base since the facility was installed in the 1950s. It's been a good fit for all parties, and it just made sense



The current Engine Test Facility Natural Gas Manifold that is going to be replaced by Elk River Public Utility District. (Photo provided)

for us to continue to provide service through privatization."

The contract for design and replacement of the piping was awarded in September.

Construction will begin in

May and is estimated to be completed in October 2011.

At the completion of construction AEDC plans to sign a new long-term contract with ERPUD for maintenance and natural gas

supply.

Walker said privatization may eventually involve the sale of AEDC's three other utility systems – electrical power, drinking water and wastewater.

ATA recipient of Guard, Reserve support award

By Janaé Daniels
High Mach Editor

Even though Arnold does not have many uniformed military on base it still receives support for employing a military mission.

No one knows this better than those who have deployed or are currently deployed to support the war effort overseas.

For this reason, Jody Frame, facility support supervisor for the Facilities Operations and Maintenance Civil Engineering shops and currently deployed to northern Iraq with the 278th Army National Guard from Winchester, decided to nominate his employer, Aerospace Testing Alliance (ATA), for the Employer Support for Guard and Reserve (ESGR) award.

"ATA leadership has always gone above and beyond to support their military members," Frame said. "I am grateful for ATA's support. As a Tennessee Army National Guard member, knowing I have the support of my company allows me to focus on my



Support Services Director Pat Eagan, left, accepts on behalf of ATA the National Committee Employer Support of the Guard and Reserve (ESGR) award from Committee Member of the of the Tennessee Committee Bob Beatty. (Photo provided)

mission without having to worry about my job back home."

According to Frame, the company's support includes allowing guard and reserve members days for annual

training requirements to having key ATA leadership showing up to see National Guard and Reserve members off for a deployment.

"ATA sets a high standard of military support for

other companies to follow," Frame continued. "This support has allowed me to serve my country and to help ensure the freedom that we as Americans enjoy. We must never take this free-

dom for granted."

Bob Beatty, ESGR committee member of the Tennessee Committee, said, "When the troops go to their deployment training, like this time to Camp Shelby,

they are asked if their employer has done anything extraordinary for them as a soldier, if so, we ask them to fill out a card."

As stated on their Web site, the goal of the ESGR is to "develop and promote a culture in which all American employers support and value the military service of their employees."

"The award is important from our point of view because the employer has done something to lighten the soldier's mind a little, giving them more of a mind to take care of what has to be done overseas, without worrying about some minor thing back home," Beatty said.

Beatty says there were about 3,600 troops at Camp Shelby and about 550 cards were signed wanting their employer's recognized for their efforts. A little more than half have been recognized with another 200 or so to go and then the process starts all over again with the next group deployed.

At Arnold, Frame works with ATA's Base Civil Engineering and helps keep

See Award, page 4

Earth Day activities planned for April 11, 22

Compiled by Janae Daniels
High Mach Editor

On April 11, Dennis Horn, well-known local wildflower expert and AEDC Fellow, will lead two separate hikes at the Short Springs Natural Area to recognize Earth Day.

People who wish to participate should meet at the water tower shortly before 10 a.m. or 2 p.m. The hike will take participants down to Machine Falls. Reservations are not required.

Short Springs is a 420-acre natural area located in Coffee County approximately three and a half miles northeast of Tullahoma. The natural area provides a contrast between Highland Rim and Central Basin geology and vegeta-

tion. It is known as one of the best spring wildflower locations in the state. Water is a significant feature at Short Springs as it once was the water supply for Tullahoma before construction of Normandy Dam.

ATA Environmental scientists have planned base-level Earth Day activities for April 22.

AEDC employees are invited to stop by the Main Auditorium from 10 a.m.-1 p.m., to visit vendor exhibits. Several off-base vendors will provide useful information about recycling, biodegradable products, ornithology, etc. Also by the Main Auditorium, Robert E. Lee's Energy Team in Tullahoma will be performing an energy awareness skit at 11:45 a.m. and 12:30 p.m.

Attendees are encouraged to register for door prizes and stop by the refreshment trailer for free popcorn and soft drinks. Approximately 60 fifth graders from East Lincoln Elementary School in Tullahoma will participate in an environmental awareness project by decorating canvas grocery bags with environmental messages. Decorated bags will be judged, and ribbons will be awarded for the best decorated bags when the bags are returned to the students for their parents' use in place of plastic bags.

Any questions about this year's Earth Day activities may be directed to Keith Carnley at 454-7252, Christina Norman at 454-7383 or Mike Frederick at 454-3626.

Relay for Life race set for April 23-24 in Manchester

The American Cancer Society Relay For Life is being held at the Coffee County Fairgrounds in Manchester starting at 6 p.m. April 23 and going through the night ending at 6 a.m. April 24.

This year there are three teams comprised of people who are affiliated with the base. All teams are looking for members interested in joining the team or making a donation toward the cause.

Team members do not have to work on base; friends and

family members are encouraged to participate.

Team and team captains are as follows: Big Cheese and the Banditos - Team Captain Greg McCreary; Chair Force - Team Captain Jack Ambridge; and Coins 4 A Cure - Team Captains Heather Fair and Kristi Deaton.

For more information, contact Dee Wolfe at 454-4313 or by e-mail at dee.wolfe@arnold.af.mil or Shawn Wolfe at 454-6500 or by e-mail at shawn.wolfe@arnold.af.mil.

Program from page 1

the nation, the defense industry and our commercial enterprises."

When he was about seven years old, Colonel Panarisi said he remembered watching a television show about an astronaut who was severely injured and required technology to put him back together.

"It was 1972, and I was sitting at home watching *The Six Million Dollar Man*," he said. "The whole story behind the science and technology it took to rebuild 'Steve Austin' just fascinated me. Of course, he was an astronaut on that show and getting into science and technology and the desire to be an astronaut was planted at the same time. But while I was in second grade, I didn't know it at the time, all the hard work I did in school was traceable back to the decision to pursue a dream in the technical fields. It's that inspiration, that decision, we are attempting to recreate with our STEM efforts. I was inspired at a very early age, so I know it can be done."

For eighth grade students, AEDC teamed with the University of Tennessee Space Institute (UTSI) to develop a program called *Minds in Motion*. Students' time is divided between AEDC and UTSI. The students tour facilities and participate in hands-on demonstrations that represent the work done at each location.

"Minds in Motion is fantastic," Colonel Panarisi said. "The big value of that is we get all of the local schools involved; it is a very wide effort. It is an eighth grade program, so I would classify it in the 'sustain' category. It's easy to see, even in that group, those who are interested, and those who were just attending a field trip. We saw firsthand that these activities made the teachers' day. So much of what they were trying to accomplish in the classroom just wasn't possible without that extra spark, and *Minds in Motion* set that spark ablaze. We saw that spark in a handful of their students. We know we can't reach all

the students. But we want to keep the fire burning for those who are inclined to pursue and overcome technical challenges."

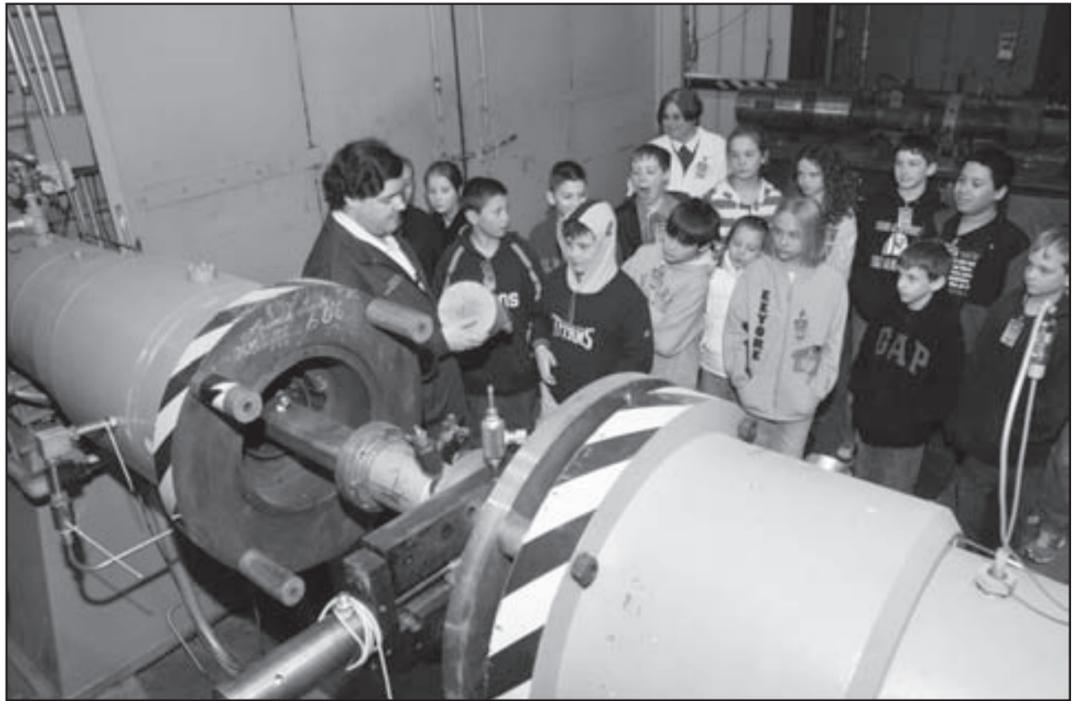
Creating a "spark" summarizes the colonel's vision for creating a "game changing" educational outreach program. Realizing that by middle school, most students aren't easily impressed, the challenge became reaching younger students.

Taking on elementary school students is something new for AEDC. One of the more difficult challenges was trying to take something like aerodynamics or jet propulsion and break it down so that it is easily understood by someone who is eight years old.

"Even at that young age, they [elementary students] are very easily fascinated, and the magnitude of what we do here, the scale of the machines, the complexity of the whole base, really leaves them with the 'wow' factor," he said. "They are so impressionable at this age, and it's so easy to get them excited when they see something that is larger than life or bigger than they dreamed. The key to inspiring this age group is showing them something they may never have imagined. When they see it for themselves and say, 'Wow, this is what I can be a part of,' you start that ball rolling. By the time they are in seventh or eighth grade, they have seen so many things, it won't be as exciting. For some it will look almost ordinary. We want to hit them before they have 'seen it all' and show them something beyond extraordinary."

The elementary school program, which has been aptly named "Spark," brings students to the center for a hands-on demonstration and teaches them an aspect of flight tied directly to the work done at AEDC. Then the students tour a couple of the facilities to see the size and magnitude of the infrastructure, all on a level that they easily understand.

The focus on elementary and middle school students



After the experiment portion of their visit, the Cowan and Broadview Enrichment class toured the base. David Woods, ATA project engineer, explained the process for the bird impact testing at one of the center's ballistic ranges. (Photo by Rick Goodfriend)

is by design. Simply put, by the time students are in high school, they have made up their mind as to what their career path is going to look like, the colonel said.

"These students may not have decided on a profession, but the study habits, the interests, the desires are relatively well set," he said. "So in a high school setting, the mission would be to sustain momentum in someone who has made that choice. But, for the long-term success of the program, our initial efforts have to plant new seeds."

Bringing students to AEDC is only part of the colonel's vision for Spark. Thanks to social media platforms and Web-based video capabilities, AEDC's scientists and engineers can bring these demonstrations to a classroom anywhere.

"We got a great tip from one of our local educators asking us to look at creating a Web-based or media-based capability, where a classroom could literally log in at a specified time and either view a prepared presentation or have somebody on the other end of a webcam. The concept centers on using technology to participate in a classroom for five or 10 min-

utes and kick off the lesson that way," he said. "This is a fantastic idea, and we can reach a lot more people with a much smaller commitment on our end. Many of today's classrooms are already connected in this way."

In fact, beginning next fall, AEDC will be teaming with a technology studies class at Fairview High School in Williamson County. The class gives the students an overview of what technology is and how we use it in the fields of transportation, construction, information communication, structural engineering and systems.

Using social media, AEDC engineers will be able to lecture or address questions asked by the students and reinforce the

curriculum already being taught.

"Some classrooms start their day with a webcam feed from another country," he said. "We could start the class with a webcam feed from here. 'Good morning, we're here at Arnold and this is what we're doing today.' It would really be a big 'bang-for-the-buck' kind of approach where somebody here would have to dedicate only 10 or 15 minutes. That's less time than it takes to get to the schools. I'm really excited about this approach, so we have to put our heads together and consider how we could take on part of that."

Success in this effort will take a team effort between the schools and AEDC. A partnership between teach-

ers, administrators and AEDC provides not only a network of mutual support, but also reinforces a common goal of ensuring that students are exposed to all aspects of STEM.

"I really want the educators in the area to know we are here and that we are a resource they can leverage as they build their curriculum. We want to be a part of their classrooms and help them provide the spark in their students," Colonel Panarisi said. "This is a mission we can take on; it's a mission that is valuable to the whole country. The people here accomplished great things because someone inspired them when they were younger. Now it's our turn to pass the torch. We're looking for the hands to give it to."

Award from page 3

the base utilities working by facilitating contractors on the base with a focus of keeping utilities and various facilities in operating order. His Army job so far has been very similar to his duties with ATA.

"With more than 10,000 people on the base I am assigned to, I am involved in a lot of the work going on to provide basic services people have come to expect," he said. "I apply a lot of what I have learned at Arnold to my duties here in Iraq on a daily basis."

Tom Penfold, section manager for the Test & Facility branch of Base Civil Engineering and Frame's supervisor, says Frame and others who are in the Guard, Reserve or active duty bring a strong sense of pride to the work place as they are performing their work for ATA and as they serve their country.

"The focus and energy they provide to the work place through their unselfish sacrifice is an inspiration to all of us," Penfold said.

Penfold thinks it is important as an employer and a contractor of defense services to be supportive of the employees who are willing to serve their country.

"As a supervisor I feel fortunate to work for a company that enables me to support our employees who are serving in these capacities," he said. "ATA has been very supportive of our employees and it has been an honor to receive recognition as part of a team recognized for this award."

ACC from page 1

element in the development of aerospace systems that are crucial to our nation's defense," Comer said. "Our annual trip to Washington is geared toward promoting initiatives that help ensure adequate funding and enhance AEDC's ability to serve its customers in an effective and efficient manner."

Comer says he was pleased that several members of the ACC were able to meet with Secretary of the Air Force, Michael Donley, and the Air Force Chief of Staff, Gen. Norton Schwartz. "At this meeting, our proposals to improve customer access to AEDC were well received," Comer said.

ACC hosted a breakfast for elected officials and their staffs and attended Tennessee Tuesday, hosted by Senators Alexander and Corker. The six ACC teams visited about 40 congressional offices.

Congressman Lincoln

Davis supports the ACC's efforts.

"As Tennesseans, we know we have a crown jewel in AEDC and thanks in part to the hard work being put forth by the ACC, more people are being educated on its capabilities," Congressman Davis said.

"In my view, ACC's goal is simple; to preserve AEDC's great test capabilities for our nation, preserve the jobs of our fellow citizens at AEDC, and to find ways to grow the missions at AEDC for the future," Cope said. "Given the acceptance of our message and an invitation to come back to Washington within two weeks to assist in writing the legislation, I think our team was very successful."

ACC includes 13 counties in Middle Tennessee and Northern Alabama. The group was formed in 2000 to promote the AEDC test and evaluation capabilities and its facilities as well as the unique talents of the

people who operate them. ACC members are economic and community development leaders, business owners, chambers of commerce, elected officials, retired employees of AEDC, and other community leaders and citizens who recognize the importance of AEDC.

During this trip, the ACC also supported two military construction projects (Power Distribution Modernization; Construct Test Cell Delivery Bay). In previous years, ACC has strongly advocated AEDC as the home for the Common Battlefield Airman Training (CBAT) site and pushed for funding on the RC-1 Cooler project currently underway. The government canceled CBAT before a site was selected.

To learn more about the detailed briefings ACC used during this trip or for membership applications, log onto their Web site at www.arnoldcommunitycouncil.com.

Local boy scouts help “exercise” Arnold



Tylee Marcum, paramedic, attends to patients in the simulated triage area during the March 23 exercise. (Photos by Rick Goodfriend)

Members of AEDC’s Fire Department exercise Evaluation Team provide sufficient first aid in the triage area to local boy scouts during a natural disaster exercise March 23.

The exercise was conducted to determine AEDC’s ability to respond to a severe weather event involving a tornado hitting the base industrial area. The boy scouts, from Tullahoma Troop 402, helped the Exercise Evaluation Team provide sufficient patients in order to test AEDC’s response to a mass casualty situation. Additionally, the scouts’ participation fulfilled a key requirement on their way to achieving an Emergency Preparedness Merit Badge. After the exercise, the scouts received a base tour.



Charlie Armstrong, firefighter and crew chief, evacuates victims from the simulated damaged Main Auditorium during the exercise.



Commander visits with locals at expo

AEDC Commander Col. Michael Panarisi welcomes Duncan Weddington, a former construction management manager at AEDC, and other attendees at the Franklin County Business Expo as they visit the AEDC booth. The commander also took time to walk around to the other booths and introduce himself to the local business leaders. (Photo by Philip Lorenz III)



Safety Achievement award given

The Safety Standard D2 Pressure Vessels and Systems (PV/S) Re-write Team who won the quarterly safety achievement award was recognized for developing important processes to reduce hazardous conditions involving AEDC pressure systems and improve the safety and reliability of the pressure systems; fully comply with current ASME Code requirements; and capitalize on lessons learned from other industry best practices for pressure systems. Pictured from left to right, Jim Raabe, AEDC chief of safety; Col. Eugene Mittuch, AEDC vice commander; Craig Harley, general manager of General Physics accepting on the behalf of Rita Parham; Wayne Jennings, ATA system safety; Austin Voorhes, ATA design engineer; Joe Dean, ATA Plant System Design section manager and Catherine Plunkett, ATA Safety & Health Group director. (Photo by Rick Goodfriend)

F-35B from page 1



tested in AEDC’s C-1, J-2 and SL-3 test cells. More than 10,000 hours have been logged on models of the F-35 airframe and the F135 engine in AEDC’s wind tunnels and engine test facilities.

“Aerodynamics, thrust and control are key components for the unique takeoff and landing capabilities of the F-35B,” said Graham Tomlinson, BAE Systems test pilot for the first vertical landing flight. “At conventional speeds the lift comes from the wings. In the hover, the aircraft sits on engine thrust (core engine & lift fan combined), and vectored engine and lift fan thrusts are used to control the aircraft in all axes. “Between the hover and conventional flight is a seamless blend of lift and thrust as the aircraft accelerates or decelerates.”

Tomlinson emphasized the importance of ground testing conducted prior to

his flight.

“The work at AEDC has helped to quantify basic airframe aerodynamics and engine responses so that our control models are updated using best possible data,” he said. “That in itself is of critical importance to F-35B. But as any fighter pilot will tell you: ‘Lift is a gift but thrust is a must.’ This is especially true for the F-35B which is totally dependent for takeoff and landing on the thrust and reliability of the propulsive system.”

Referring to the recent flight, Tomlinson said, “On March 18, we had the proof of the pudding, with a faultless STOVL mission at NAS Patuxent River starting with a short takeoff at 80 knots (which will be a typical launch speed from a USN L-Class ship) and ending with a vertical landing. The aircraft was as solid as a rock and the cockpit workload was refreshingly

low, a generational leap better than legacy STOVL aircraft.”

Looking toward the future, he added, “Generations of U.S. Marine Corps and partner nation pilots will thank AEDC for assuring us the engine reliability we need to come home safely to small ships and austere operating bases.”

The F-35B will provide a combination of capabilities never before available: stealth, supersonic speed and STOVL basing flexibility.

F-35 Lightning IIs will replace a wide range of existing aircraft, including A-10s, F-16s, F/A-18s and AV-8B Harriers. The STOVL version of the F-35 will be used by the U.S. Marines and the British Royal Navy.

The F-35 program is the world’s largest military project, involving 11 countries and employing about 20,000 people worldwide.

Left, the Lockheed Martin F-35B begins descending to its first vertical landing March 18. (Lockheed Martin Photo by Damien A. Guarneri)

There is truth to the rumor that seatbelts save lives

Most people realize that seatbelts really do save lives.

They know this from television commercials, from friends or relatives who have been issued a citation not wearing a seatbelt or even from friends or loved ones who have been

saved because of a seatbelt. But, there are still those people who aren’t aware of how seatbelts can save your life or who decide not to wear one for various reasons.

Most states require the use of seatbelts because they save lives. In most

states, you can receive a citation for disobeying seatbelt laws. Such laws exist because motor vehicle accidents are the most common cause of accidental deaths, both on and off the job.

These laws exist because statistics have shown that motor vehicle accidents

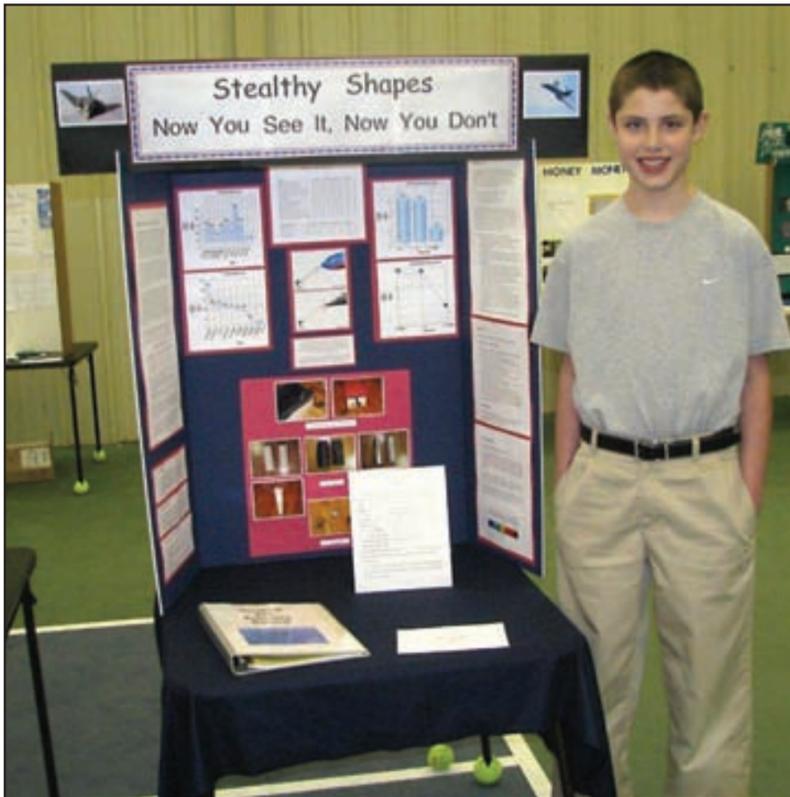
cause millions of disabling injuries per year and wearing a seatbelt substantially increases your chances of staying alive by minimizing injury if you in an accident.

The seatbelt will hold you in place so you don’t crash into the dashboard,

steering wheel, etc. A crash at only 30 mph will send a 150-pound person who’s not wearing a seatbelt into the steering wheel or dashboard with a force of more than two tons.

Seatbelts will also keep you from being ejected or from being thrown un-

der the vehicle during the accident. The seatbelt is designed to allow your shoulder and hip bones – the strongest areas of your body – to absorb most of the shock of an impact. You will most likely remain conscious and able to help yourself



Adam Yardumian stands with his science fair project at the Chattanooga Regional Science Fair at the University of Tennessee at Chattanooga where he won several awards including the Gen. Hap Arnold Science Award. (Photo provided)

Local student wins Gen. Hap Arnold Science Award and many others

By **Janaé Daniels**
High Mach Editor

During the week of March 8-12, Adam Yardumian, a seventh grade home schooled student from Normandy, entered the Chattanooga Regional Science and Engineering Fair in the category of physics.

At the awards ceremony held at University of Tennessee at Chattanooga, March 11, Yardumian won the following awards in his age and grade category: the Hap Arnold Science Award, the Air Force Award, the Naval Research

Award and first place in the Physics category.

The purpose of his project was to explore how 3-D shapes affect scattering of visible light. A light signal is sent out with a flashlight and the amount of light returned is measured with a light meter to determine some of the factors that make aircraft invisible or near-invisible to radar. The Hap Arnold Science Award was created to encourage area young people to pursue careers in science and engineering.

According to Tony Medley, fiscal year 2010 president of the ATA Employee

Committee and Activities Council, the council gives a \$500 donation consisting of a certificate and a U.S. savings bond for the award at the fair.

Yardumian's father Don says Adam has wanted to go into the Air Force for several years and has always loved aircraft and wanted to know in particular about the stealth aircraft. Three years ago when Yardumian was asked where he would like to go during summer break, he said he wanted to tour AEDC and also go to Smyrna to the National Guard base. He did get to go on both tours.

UTSI hosts annual Thomas Jefferson Lecture April 22

By **Madge Gibson**
Office of the Executive Officer, UTSI

Dr. Richard A. Samuelson will be the guest speaker for the Thomas Jefferson Lectures to be held at The University of Tennessee Space Institute's auditorium from 3-4:30 p.m., Thursday, April 22.

The topic of Dr. Samuelson's lecture will be "Thomas Jefferson, John Adams and the American Future."

It was an exciting time for Jefferson, Adams and their friends as they proceeded in creating a new nation, knowing the task at hand.

John Adams wrote in the spring of 1776, "You and I, my dear friend, have been sent into life at a time when the greatest lawgivers of antiquity would have wished to live. How few of the human race have ever enjoyed an opportunity of making an election of government, more than of air, soil, or climate, for themselves or their children!"

Dr. Samuelson, assistant professor of History at California State University,

San Bernardino, Calif., has held fellowships or teaching appointments at Claremont McKenna College, the University of Paris VIII, the National University of Ireland, Galway, the University of Glasgow, Liberty Fund, the Massachusetts Historical Society and the International Center for Jefferson Studies.

He also writes about 'constitutionalism, the rule of law, religion, politics and empire in America's founding era.'

He has been published extensively and currently is writing a book on John Adams' political thought, "John Adams and the Republic of Laws."

The Thomas Jefferson Lectures began in 1996 as the result of a gift from a generous benefactor and UTSI has been able to bring to the community guest lecturers who have presented

many interesting and informative areas of Thomas Jefferson's life and times.

Area high school students have an opportunity to write an essay that will be judged and the winner will be announced at the end of the lecture.

A reception will follow in the UTSI lobby. This event is free and open to the public and everyone is invited to attend.



Dr. Samuelson

Arnold promotes fairness, dignity, respect for victims of crime during observance

By **Lt. Col. James Kennedy**
AEDC Staff Judge Advocate

During the week of April 18-24, communities throughout the nation will rally to honor and support victims of crime.

This year's National Crime Victims' Rights Week will recall the ideals that inspired the decades-long struggle of the victims' rights movement and challenge all Americans to honor victims' rights.

The theme is Crime Victims' Rights: Fairness. Dignity. Respect.

Only a few decades ago, unfairness, indignities and disrespect confronted many victims of crime. Victims of Crime in America, the 1984 report of the president's Task Force on Victims of Crime, described a "hellish" justice system, focused on offenders and indifferent to victims' needs.

A victim disabled by a crime cashed in his life insurance to pay for heat and food. A sexual assault victim faced taunts and jeers from her attacker when she was forced to sit beside him in a courthouse hallway before the trial. Then she was excluded from the trial.

At that time, victims' only "right," declared one expert, was "to remain silent" in the face of such inequities.

In the 25 years since Victims of Crime in America was published, a grassroots movement began to combat such unfairness and launched decades of progress for victims of crime.

As of 2010, every state has passed victims' rights laws, and 32 states have constitutional victims' rights amendments.

All states have victim compensation funds, and more than 10,000 victim assistance programs exist throughout the country. Such changes have made victims participants, rather than bystanders, in the criminal justice system.

Yet much work remains. Victims' rights are not always enforced. Some

victims receive no notice when a trial is scheduled or an offender released.

Some courts deny victims' right to be heard at sentencing or to be present at trials, or they fail to order restitution or issue protection orders to keep victims safe.

Some victims never learn about victim compensation or receive victim services, an increasing reality during our current economic downturn. Such failures block victims' access to their rights.

"The ideals we celebrate this week give hope to all Americans," said Joye E. Frost, acting director of the Office for Victims of Crime, Office of Justice Programs, U.S. Department of Justice. "When a victim reports a crime because an officer treats her fairly, it enhances the safety of an entire community. When a court hears an impact statement or issues an order of restitution, victims learn the power of fairness, dignity and respect. Yet when our nation falls short of these ideals, we fail victims and dishonor the progress we mark this week."

The Office for Victims of Crime will launch National Crime Victims' Rights Week in Washington, DC, with its annual National Candlelight Observance Ceremony April 15, and its awards ceremony April 16, to honor extraordinary individuals and programs that provide services to victims of crime.

For ideas on how to volunteer and help victims in your community, call the base legal office or visit the Office for Victims of Crime Web site at www.crimevictims.gov. Organizations in your county that could use your help include the Legal Aid Society, Contact Life Line or Haven of Hope.

For more information on Victims' Rights week, filing claims for victim compensation or for other victims assistance needs, contact Leslie Tuttle, Victim and Witness Assistance coordinator, at the base legal office at (931) 454-4657.

**Loose
lips sink
ships.
Always
think
OPSEC!**

DoD social media policy balances security, access

By Ian Graham
Defense Media Activity

Washington (AFNS) – The new Department of Defense policy allowing access to social media from computers connected to the military’s unclassified network balances the mission value of Web 2.0 tools and the need for security, a top defense official said.

Since being hired as principal deputy assistant secretary of defense for public affairs in June, Price B. Floyd has made waves as the Pentagon’s “social media czar,” promoting the use of Facebook, Twitter, YouTube and other social networking tools to spread the department’s message.

Mr. Floyd explained the new policy announced recently to participants in a “DoDLive” bloggers roundtable March 1.

“This means all (Defense Department) components have been told ... that the default switch on access is to be open,” Mr. Floyd said. “It’s balanced with the need to be security-conscious and tells the combatant commands to continue to deny access to sites when people try to access them inappropriately.”

The policy upholds longstanding regulations denying access to Web sites with inappropriate content, such as gambling, hate crimes or pornography, he said. The new policy also keeps in the mind the importance of operational security, which he said becomes more important because of social media’s reach.

“Don’t say or do anything on these sites you wouldn’t say or do in any other form of communication,” he said. “The people here in public affairs have started an education campaign to push out both the fact that we have this new policy, and the need to use it appropriately.”

He cautioned that certain caveats apply to the policy. In many

areas where servicemembers are stationed around the world, the infrastructure simply doesn’t exist to support high-bandwidth applications such as video streaming, he explained.

“In a place like Afghanistan, bandwidth is going to be a problem. Just because we have a new policy, doesn’t mean everything’s open,” he said. “If we don’t have the bandwidth, we don’t have the bandwidth.”

The new policy comes largely as a result of a culture shift outside the Defense Department, Mr. Floyd said. That shift needs to be carried over into the department’s culture, he added, as young people, many of whom have grown up using sites such as MySpace and Facebook, join the military.

Along with educating servicemembers on how to use social media tools appropriately, Mr. Floyd said, some trial and error also must be part of the process. Because these technologies are constantly emerging and evolving, he explained, leaders should be less concerned about being given step-by-step guidance on how to use each application and more about finding what works best for their unit in their location.

The early months of the new policy will be a learning period for everyone, Mr. Floyd said. In six months, he added, a review will lead to further guidance. For now, though, he encouraged exploration of social media.

“We shouldn’t be so dogmatic about this stuff,” he said. “Try new things, see what works. What works for me here in Washington might not work on a base somewhere else. I would encourage people to open a Twitter account, create a Facebook page, and see what works for them and their audience.”



Lt. Col. James Piel, left, and Afghanistan National Army Air Corps 1st Lt. Faiz Mohammad Ramaki shake hands after a successful landing of a C-27 Spartan March 24 at Kandahar Airfield, Afghanistan. Piel is the 538th Air Expeditionary Advisory Squadron commander and C-27 pilot-mentor. Ramaki is an ANAAC C-27 pilot. (Photo by Staff Sgt. Manuel J. Martinez)

Afghan flies cargo mission, adds milestone

By Michael Hoffman
Air Force Times staff writer

Kandahar Airfield, Afghanistan — First Lt. Fariz Mohammad Ramaki of the Afghan National Air Corps can add another first to his name.

The 28-year-old junior officer is the first Afghan to fly a combat mission in a cargo fixed-wing aircraft as well as the first Afghan pilot in 50 years to complete U.S. pilot training.

Ramaki earned his latest distinction March 24, when he helped pilot a C-27 Spartan with Lt. Col. James Piel, commander of the 538th Air Expeditionary Advisory Squadron. Ramaki received his pilot wings in June at Columbus Air Force Base, Miss.

The co-pilots completed the flight from Kabul in 90 minutes, delivering 300 pounds of cargo and 23 passengers. Waiting to congratulate them on the joint flight was a crowd of Afghan and American airmen that included Brig. Gen.

Michael Boera, commander of the 438th Air Expeditionary Wing and Combined Air Power Transition Force.

For Ramaki, the flight meant more for his country than for himself.

“I am very proud,” he said. “It is good for Afghanistan and I make my country my priority.”

Ramaki started working with the U.S. military in 2002 as an interpreter for the U.S. Special Forces training team embedded with the Afghan National Army’s 1st Battalion.

His work as an interpreter eventually connected Ramaki to an Air Force unit, whose commander recommended he take a test to qualify for undergraduate pilot training in the U.S.

Ramaki had the highest score on the test, Piel said. Ramaki found himself headed first to Texas for nine months of English classes, then to Mississippi for a year of pilot training.

Ramaki started C-27 training

in December and qualified two months later.

“He’s a quick study,” Piel said. “You do it once and he could repeat it immediately.”

Most Afghan pilots are in their 40s, products of Soviet flight training, and don’t hide their jealousy of their younger, American-educated counterpart.

“They don’t like me because they are Russian-trained and I am U.S.-trained and I do things differently,” Ramaki said.

Right now, two Afghans are in U.S. pilot training. When they return to Afghanistan, they will join Ramaki’s unit in Kabul to train with the 538th. The Afghan unit flies three C-27s and five slightly smaller An-32s, twin-engine turboprop transport.

Piel’s squadron expects the Afghan fleet to eventually grow to 20 C-27s; two more aircraft will be delivered this month.

“These young pilots won’t accept the status quo. They are determined to change history,” Piel said.

Shooter, sirens prepare Minot Airmen for emergency

By Tech. Sgt. Thomas Dow
5th Bomb Wing Public Affairs

Minot AFB, N.D. (AFNS) – Minot Air Force Base Airmen responded to a mock attack during a massive accident response exercise at the McAdoo Sports and Fitness Center March 26 here.

More than 50 evaluators and exercise planners, including officials from local and state emergency management staffs, the FBI, Minot Police Department and Trinity Hospital, as well as more than 50 volunteers came together to create a realistic simulation of an attack by an active shooter assault at the base fitness center.

The exercise consisted of teams of security forces whose mission was to neutralize a gunman in the fitness center, rescue those trapped in the facility and secure the scene, said P.J. Pallotta, a 5th Bomb Wing antiterrorism officer. Follow-on emergency responders, to include fire and medical forces, then dealt with multiple casualties as a result of the shootings and from a low-grade dirty bomb that had been detonated by the gunman.

“Simultaneously, the rest of the base went into lockdown and all major control centers were activated,” he said. “Even our elementary schools on base practiced lockdown procedures. It was a very plausible scenario.”

All these activities were done under the watchful eyes of exercise evaluation teams. These base

evaluators watched to see how responders reacted to different situations.

“The main objectives we evaluated were how the base gets initial notification out, responds to the threat, and finally recovers to resume operations,” said Maj. John D. Walsh, the 5th Bomb Wing conventional inspections chief.

Major Walsh said while Airmen do not have control over the kinds of disasters they encounter, they do have control over how they react when put in dangerous situations.

“This training is key,” the major said. “It can literally make the difference between life and death.”

The importance of such exercise training wasn’t lost on Tech. Sgt. Kerry Koepp, a Minot AFB antiterrorism officer.

“This exercise was a great training tool for all entities, but especially important to security forces,” Sergeant Koepp said. “Initial responding security forces were faced with mass panic, personnel fleeing the scene and chaos inside the facility, all with minimal information at their disposal. Trying to gather information, secure a scene, and be ready to accept follow-on emergency responders, all in a short time, is a monumental task. From an antiterrorism perspective, it was a terrific opportunity for all base personnel to practice their force protection Condition Delta and sheltering-in-place actions.

There’s no doubt that a quick and effective response by the base populace will save lives.”

With so many moving parts in motion during a crisis situation, communication between 5th BW and 91st Missile Wing responders was vital to ensuring the right thing happens at all times.

“It is important that our leadership and emergency responders practice the teamwork and communication needed for such an incident,” said Timothy Allen, a 91st MW antiterrorism officer. “When you’re in a high stress situation like this, your actions will inevitably fall back to your training.”

To provide added realism, some Airmen arrived at the base hospital at 5:30 a.m. to be moullage victims. The Airmen volunteered to assist exercise planners by portraying panicked, injured and even dead victims. Some stayed in the main cardio room acting as victims of the dirty bomb while others simply sprawled on the gymnasium floor covered in fake blood and realistic injuries as a result of the mass shooting.

Minot AFB Airmen performed their tasks with precision and unfailing resolve, said Col. Julian Tolbert, the 5th BW vice commander. Had the situation been real, the base would have been ready.

“The Airmen who participated in today’s exercise showed focus and a willingness to overcome the many obstacles seen with such a scenario,” he said. “It’s unfortu-



A base firefighter assists simulated victim Airman 1st Class Summer Mancilla during a major accident response exercise March 26 at Minot AFB, N.D. The exercise prepared base members for possible real-world situations as well as testing communication and emergency procedures. Airman Mancilla is a 5th Maintenance Operations Squadron scheduler. (Photo by Airman 1st Class Aaron-Forrest Wainwright)

nate we must train for days like today, but I feel confident knowing the base has skilled professionals ready to react to any situation.”

Commander's Fit Tip: It's all about the water

By Col. Michael Panarisi
AEDC Commander

Spring has sprung, temps are rising (FINALLY!) and you've committed to cranking out some miles on your bike or putting some serious hurt on the pavement with your new shoes.

But somehow, it's just not working out...you just can't seem to get to that "next level." What's holding you down? The solution might be closer than you think. The higher temps magnify the problem, and the problem could be dehydration.

"What? I'm not thirsty." Oh contraire! You just don't know it. A little basic biology shows us why.

First, let's look at what we're up against. Our workouts challenge more than just our muscles. The cooling system has to ramp up, and our oxygen/waste product transport systems get put to the test as well. These systems share a common source...our blood supply. The problem is our workouts deplete our "life fluids" at the very time we need them most.

For the sophisticates in the crowd, it's a matter of "volumetric efficiency." For max efficiency, the pump needs two things...good mechanics and the right amount of fluid. Our workouts improve the mechanics, but they drain the fluid.

In our exploration of the heart beat myth, we saw that our heart is at the center of a complex

pumping system. While aerobic activity makes the pump stronger over time, it's only as good as the juice it has to pump. When we "drain the reservoir," we make it work harder, robbing performance and causing early fatigue. Waste products build up and reach higher concentrations in an ever reducing volume. It gets worse.

Since we see the heart as the engine in the aerobic cycle, it's easy to overlook its vital role in cooling and waste removal. And in these tasks, keeping the tanks full is critical. Yet we literally run them dry with every breath we take.

There's a huge blood volume in the lungs, primarily to exchange oxygen and carbon dioxide. But the physics of the problem explains the secondary role in cooling. Unless the air you breathe in is hotter than your body temp, every breath literally cools the blood, making your lungs a natural "radiator." This is almost a freebee, except for one thing. Unless it's raining (i.e., the relative humidity is close to 100 percent), every breath transfers some water into the exhaled volume.

At lower temperatures, this transfer represents a volume loss that exceeds the loss we experience in perspiration. At the higher temps, it's a double whammy...we perspire more, and the cooling effect drops. The only way to combat this as we increase the demand on the sys-

tem is to keep the fluid volume as high as possible, and that's the problem with dehydration...it hits every aspect of our performance. Re-hydration is not a "post workout" issue. We need to add fluids during the workout to get to the next level.

I can hear it already. "But I'll get a belly cramp" or "I don't like that sloshing feeling." OK, I'm with you. But I'm not talking gallons here. There's two parts to this solution, and the "before" is just as important as the "during." (Though "after" is a big player in recovery, so we'll hit that at the end). That's the problem with our thirst reflex. It just kicks in too late. Some doctors will tell you the trigger starts around the 3 percent dehydration level. That sounds trivial; but since you're nearly unconscious at the 10 percent level, by the time you're thirsty, you are a long way from peak performance. The trick is to stay ahead of the curve, the hard part is knowing when your tanks are full.

Since most of us don't work at the gym, we don't need to know, we can let physics take care of this for us.

Trick #1: Tank up on the way to the gym. I mean really tank up, on the order of a pint, maybe more. Just chug it. By the time you get into your workout, the kidneys will have sorted out how much of that you really needed, and at the same time, give you hard evidence of where your real hydration level is.

OK, so you drained a bottle, you are ready to get warmed up. What's next? If you were nearly fully hydrated, you won't need any prodding to head to the restroom along the way. If you are about to start your workout, and you just don't have "the urge," you are not fully hydrated. I can prove it.

When the urge finally comes, I promise it won't be "clear" and the darker the fluid, the more dehydrated you are. So the target is a little urge as you put on your shoes, and a clear stream tells you the tanks are as full as they can get. Now it doesn't count if you have "the urge" and you didn't tank up first. I'm talking about inducing an unscheduled trip, not just executing one that was lying in wait.

So the "before" is done, what's the "during" part. Very simple. I use "10 minutes, two swigs." This is really easy on the treadmill, elliptical, spin bike, or while weight training. In a typical workout, you'll drain a pint bottle in around 45 minutes. On the road or mountain bike, you can get the hang of it, just adjust the timing a bit until you are in a safe place. Not a good plan on a big downhill or in traffic. Running makes this a real challenge; and I admit, I rarely re-hydrate on a fitness run. Just haven't found a good way to beat the logistics.

But think about all the races you've seen ... events 10K or longer have water stops ... gee,

I wonder why? It's not about preventing dangerous levels of dehydration, it's for the pros who are looking for that last 5 percent of performance. If your run is under 45 minutes, it's pretty tough to get dangerously dehydrated if you started out full. But if you really want to peak, you'll see benefit with a few ounces around the 30 minute mark.

So what about the "after" part? Even easier! If you did a vigorous workout, and you left some sweat on the floor, chug at least a pint before you hit the shower, then another on the way out from the gym. Don't worry about over doing it. You'll "give it back" shortly after you get back to work. If it's clear, you're done. If not (and I bet it won't be!) chug one more every hour until it is. You won't believe how much better you'll feel the next day if you typically stay dehydrated after a workout. I bet most do.

Re-hydration is easy to add to your portfolio, and has a huge "bang for the buck." And as we said before, water is your friend. You don't need those expensive, calorie/sugar laden sports drinks for a typical workout. Remember, the guys that invented "Gatorade" did it for the Florida football team...three hour practices in the summer heat. Your three-miler on a mild afternoon just isn't in that league. Stick with the tap and put the bucks you save towards that shiny new heart rate gadget!

Protection that matters: A personal protective equipment checklist

In many jobs, personal protective equipment (PPE) is the last, and perhaps the most important barrier between work and potential injury. Think about it – how would a long-term, possibly permanent, injury impact of your life or the lives of

your family and friends? Imagine life with a diminished sense of sight, hearing, smell, taste or touch. Imagine life with a handicap. Now think about the ways proper PPE – at work or during tasks at home – can help prevent injury.

Eye protection – maintain eye protection by frequently inspecting it for dirt and scratches and ensure that all protective eyewear is clean before use and take the time to clean the eyewear as required throughout each workday.

Hearing protection – wear hearing protection in posted areas and wash hands thoroughly before inserting hearing protection and ensure earplugs are clean.

Head protection – adjust hardhat suspension to distribute

the impact evenly, wear hardhat directly on top of your head and inspect the hardhat regularly.

Foot protection – inspect footwear often to ensure the sole provides good traction and the rest of the shoe meets safety standards.



Gen. Robert White, who flew his X-15 almost 60 miles above Earth and was the first Air Force pilot to earn the rating of winged astronaut, passed away recently at the age of 85. (Photo courtesy of AimPoints)

First pilot to fly plane into space dies

On July 17, 1962 U.S. Air Force Major Robert White flew his X-15 rocket plane to an altitude of 59 miles above the Earth and reached weightlessness.

He could see the coastline of the western United States from north of San Francisco down to Mexico.

On his radio, he said, "This is a fantastic view."

By that time, four Americans had gone into space but they were in capsules that splash landed under parachutes in the ocean.

General White successfully flew his plane back to Earth and landed it on a dry lake bed at Edwards AFB.

For this feat, he won the Air Force rating of winged astronaut - the first one awarded to a pilot.

The X-15 he tested would become the forerunner of the modern space shuttle which achieved its first orbital flight in 1981, the same year White retired.

General White flew in World War II and the Korean War before becoming an X-15 test pilot.

He was also the first pilot to break the milestone speed barriers of four, five and six times the speed of sound. He eventually reached a top speed 4,094 mph.

He completed 70 combat missions in F-105 aircraft over North Vietnam.

His military decorations and awards include the Air Force Cross, Distinguished Service Medal, Silver Star with three oak leaf clusters, Legion of Merit, Distinguished Flying Cross with four oak leaf

clusters, Bronze Star Medal, Air Medal with 16 oak leaf clusters, and the Air Force Outstanding Unit Award Ribbon with "V" device.

For his achievements in the X-15 aircraft, General White received the Harmon International Aviators Trophy, the Collier Trophy and the National Aeronautics and Space Administration's Distinguished Service Medal.

General White passed away at his home in Florida. He was 85.

Milestones

35 years

J. T. Northcutt, ATA
Leon Parks, ATA

30 years

Tom Best, AF
Roy Carroll, ATA
Will Kissel, ATA
Karen Medley, ATA
William Milam, ATA

25 years

Joel Shaver, ATA
Troy Davis, ATA
Rodger Ford, ATA
Denis Nisbett, ATA
Timothy Emerton, ATA
Gary Clower, ATA
Robert Porter, ATA
Roger Miller, ATA
Michael Reep, ATA

20 years

Harold Turrentine, ATA
Jared Smith, ATA

15 years

Bryan Petty, ATA
Mitchell Swafford, ATA

10 years

David Gass, ATA
Christopher Mears, ATA
Brad McNeese, ATA

5 years

David Brown, ATA
Phillip Buckner, ATA
Austin Voorhes, ATA
James Wiser, ATA
Steve Luttrell, ATA
Michael Brumer, ATA
Jacob Lirette, ATA
John Jenkins, ATA

Inbound Military

Capt. Ashton Hainge, AF
Staff Sgt. Jennifer Stokes, AF

Retirements

Bill Gray, AF
Col. Joel Speight, AF
Col. Raytheon Scott, AF
Coleman March, Premiere
Mary Jo Horton, Premiere
Jane Chambers, Premiere
Norman Buckner

Promotions

Michael Tyler, ATA
Mike Lazalier, ATA
Mark Bymaster, ATA

New Hires

Greg Halliburton, AF
Elaine Posanka, AF
Dean Mohler, AF
Roger Newton, AF
Ronald Lutz, AF



**J.T. Northcutt,
35 years**



**Leon Parks,
35 years**

Arnold Golf Course 454-7076

Rec. League begins April 19. Get your teams together now and call for information on how to sign up. Teams consist of four people with play at 4:30 p.m. on Mondays and Tuesdays for 19 weeks. Cost is \$30 per person.

Arnold Lakeside Center and Mulligan's Grill at Arnold Golf Course would like to recognize **Administrative Professionals' Day** with special offers. Arnold Lakeside Center will be open for lunch from 11 a.m.-1 p.m. Order from the Express or Hap's Pizza menus. Call ahead orders to 454-3350 for dine in or carry out. At Mulligan's Grill, purchase one lunch combo at regular price and receive a 20 percent discount off any second lunch combo purchased. Call 454-7076 for advance orders. Mulligan's Grill serves lunch from 10:30 a.m.-2 p.m.

Mulligan's Grill is open seven days a week from 7 a.m.-2 p.m. Try the "Good Morning Breakfast" special Monday-Friday. This includes two eggs, choice of bacon or sausage, hash browns and one biscuit and gravy for \$4.50. Breakfast is served until 10:30 a.m. Lunch specials are: **Monday:** southern reuben melt; **Tuesday:** cranberry walnut chicken salad croissant; **Wednesday:** turkey cub panini; **Thursday:** chili cheese dog; **Friday:** club sandwich. All specials are served with fries and fountain drink for \$6. Try the soup of the day with a sandwich. Mulligan's Grill meals are a great value and include unlimited drink refills. Call ahead for advance or to go orders at 454-7076. Remember to show your Members First Plus membership card for a 10 percent discount on purchases of \$4 or more.

Arnold Lakeside Center 454-3350

Sign up now for three months of free club membership. All personnel who join any Air Force club between now and May 30 will automatically receive three months free dues, a free cash back rewards program and a chance to win \$5-\$100 instantly upon application. Pick up an application, fill it out, and experience the benefits of membership. The membership card provides numerous benefits. The Military Free Cash rewards program is an outstanding benefit to members. When you use your club membership card in any on-base Services activity, you earn 2 percent cash back on every eligible purchase including AAFES (to include gas) and Commissary. Additionally you earn 1 percent cash back on eligible purchases everywhere else including all off base purchases. In addition to being able to redeem points for cash back and gift cards, you now can also redeem for travel, to include airline tickets, hotel and car rental – super flexibility – and it is all free, as a benefit of club membership! Air Force Clubs offers members numerous free and inexpensive activities including discounts on every meal to include special functions, an annual \$25,000 scholarship program, Football Frenzy, Air Force Hoops and other

member's only programs. Join now – the first three months are free on us!

Pizza Wednesdays available for dine in or carry out from 11 a.m.-1 p.m. Call ahead to 454-5555 to place orders. No delivery available. For better service, you may call on any day and preorder. Pizzas are available in 12 or 16 inch and range in price starting from \$7. House favorites include the Falcon (cheese), Eagle (pepperoni and cheese), Stratofortress (pepperoni and bacon Stromboli with mozzarella and ricotta), Mustang (ham, bacon, pineapple and cheese), Spirit (veggie – mushrooms, green pepper, onion, tomato, black olives, basil, olive oil and feta cheese) and Galaxy (pepperoni, sausage, ham, green pepper, onion, mushrooms, black olives, bacon and extra cheese). Gourmet specialties include the Wart-hog (ground beef, cheddar, red onion, tomato, spinach and sesame seeds), Phantom (spinach, basil, sun-dried tomatoes, garlic, olive oil, pesto, mozzarella and parmesan), Blackbird (chicken, spinach, jack cheese, alfredo sauce, parmesan, gouda and mozzarella) and Raptor (pepperoni, ham, sausage, bacon, ground beef, olive oil and cheese). Fly solo and build your own (\$1 for individual toppings). The pizza menu is also available for dinner on Thursday, Friday and Saturday from 5-9 p.m.

Movie nights are every Thursday at 6:30 p.m. with dinner available from the Express or pizza menus from 5-9 p.m. The schedule for the remainder of April is: **April 15** – "Avatar," rated PG-13 starring Sam Worthington, Zoe Saldana and Sigourney Weaver. A paraplegic marine dispatched to the moon Pandora on a unique mission becomes torn between following his orders and protecting the world he feels is his home. **April 22** – "Tooth Fairy," rated PG starring Dwayne Johnson and Ashley Judd. A bad deed on the part of a tough minor-league hockey player results in an unusual sentence: he must serve one week as a real-life tooth fairy. **April 29** – "The Spy Next Door," rated PG starring Jackie Chan and Amber Valletta. Former CIA spy Bob Ho takes on his toughest assignment to date – looking after his girlfriend's three kids, who haven't exactly warmed to their mom's beau.

Friday night dining room specials available from 5-9 p.m. **April 9:** chicken wellington, \$11.95 for members, \$12.95 for nonmembers. **April 16:** Air Force Club Member Discount Weekend: Members receive 25 percent off any regular priced dining room menu item (does not include Express or pizza menus; dine in only; not valid with Services bucks or any other discount offer; does not include beverages). **April 23:** chicken florentine, \$11.95 members, \$12.95 nonmembers. **April 30:** Prime Rib for Two \$33 members \$35 nonmembers. Please call for reservations to ensure special is available. All specials and times are subject to change without notice. Please call ahead to ensure availability and openings.

Saturday availability and specials: April 10: seared tataki tuna steak crusted with black sesame seed and pepper, \$14.95

for members, \$15.95 for nonmembers. **April 17:** Air Force Club Member Discount Weekend: BOGO Night – Buy one regular priced menu item from the Express menu and get a second item of equal or lesser value from Express menu free (does not include pizza or Dining Room menus; dine in only; not valid with Services bucks or any other discount offer; does not include beverages). **April 24:** grilled sirloin tips over wild rice, \$10.95 for members, \$11.95 for nonmembers. The dining room is open on Saturdays from 5-9 p.m. unless otherwise specified. Please call for reservations to ensure these specials are available. All specials and times are subject to change without notice. Please call ahead to ensure availability and openings.

Spring Chess Club scheduled for April 15-May 27 for all ages (under age 13 will need parent present). Play format is open to all skill levels and is not structured. Players are required to observe all rules of sportsman-like conduct during play and towards all players regardless of skill level. Play will be in The Landing from 5:30-8:30 p.m. Sign up by April 14. Express and pizza menus will be available until 8 p.m. There must be at least four people signed up to conduct the club.

Arnold Lakeside Center will offer specials to **Members First Plus members only April 16 and 17.** The dining room is open to all eligible users but only members may take advantage of the special offers. On April 16, members receive 25 percent off any regular priced dining room menu item. This does not include Express or pizza menus and is for dine in only. The April 17 special is BOGO Night – Buy one regular priced menu item from the Express menu and get a second item of equal or lesser value from the Express menu free. This offer does not include the pizza or dining room menus and is for dine in only. These special offers are not valid with Services bucks or any other discount offer and do not include beverages. Call 454-3350 for reservations or more details.

Family Member/Youth Programs (FamY) 454-3277

Join the Youth Center for **4-H Club** meetings March 25, April 22 and May 20 from 5-6 p.m. 4-H Club is designed for youth in the 4th grade through 18 years of age.

Air Force Space Camp 2010 applications are being accepted. The camp will be conducted July 25-30 at the U.S. Space and Rocket Center in Huntsville, Ala. Forty-eight scholarships are available for youth ages 12-18. Interested youth must complete the application and apply through the Youth Center. Applicants may not have attended previous space camps. This program is open to family members of active duty Air Force, other branches of the military assigned to or living on Arnold AFB, Air Force retired military, Air Force civilian and contractor employees, Air National Guard and Air Force Reserve members. Airline or private vehicle travel costs to Huntsville are the responsibility of the at-

704th Services Division hours of operation:

Arnold Lakeside Center – Special function luncheons available. Call 454-3350 for arrangements. Catering/Management offices Tuesday-Friday 10 a.m.-3 p.m.; Lunch: Pizza Wednesdays, 11 a.m.-1 p.m., call 454-5555 to place orders; Dinner: Arnold Express Menu or Hap's Pizza only Thursday 5-9 p.m., dinner or Arnold Express Menus and Hap's Pizza Friday and Saturday 5-9 p.m.; Main Bar Thursday 4:30-8:30 p.m., Friday and Saturday 4:30-9 p.m.; Social Hour Friday 4-6 p.m.

Family Member/Youth Programs – Youth Open Rec Tuesday and Thursday 4-7 p.m., Wednesday 1-6 p.m., Friday 4-9 p.m., Saturday 12-5 p.m.

Outdoor Rec / Arts & Crafts – Main Office, Check In, Marina and Auto Shop Tuesday through Sunday 8 a.m. – 6 p.m.; FamCamp Store Tuesday through Friday 3-5 p.m., Saturday and Sunday 8-11 a.m., 2-5 p.m.

Fitness Center – Monday-Friday 5 a.m.-9 p.m.; Saturday 8 a.m.-4 p.m.; Sunday 12-5 p.m.

Arnold Golf Course – Pro Shop and Driving Range daily 8 a.m.- 5 p.m.. Mulligan's Grill: daily 7 a.m.-2 p.m.

Recycling – Monday-Friday 7 a.m.-4 p.m.

Wingo Inn – Monday-Friday 7 a.m.-6 p.m., Saturday and Sunday 8 a.m.-4 p.m.

Barber Shop: by appointment – Monday, Wednesday & Friday 8 a.m.-2 p.m.; Thursday 8 a.m.-noon

tendee. Lodging, meals and activity costs are funded at no cost to the participant. All applications must be fully completed and returned to the Youth Center by April 26. Call for complete details on how to apply.

4-H, Operation: Military Kid (OMK) and Joint Family Support Assistance Program (JFSAP) one week residence camp to be held in Crossville at the Clyde York 4-H Center May 31-June 4. Youth, grades 6-8 as of Jan. 1, are invited to apply and must be a legal dependent of an armed services member (any branch) in the deployment cycle (includes those who are currently deploying, have been deployed or who will be deployed in the near future). The camp includes activities such as swimming, crafts, ropes course, woodworking, etc., and participants will have a chance to meet other youth from across Tennessee. Cost is \$20 per camper and covers the cost of camp, T-shirt and various incidentals. Transportation will be provided from the Coffee County 4-H Extension Office. Applications are available at the Youth Center and must be returned along with registration fee (made payable to Tennessee National Guard Family Program). Camp will fill up quickly so register early. Applicants are accepted on a first come, first served basis.

Camp Adventure returns June 1-Aug. 6. Camp Adventure is a day camp for children who have completed kindergarten through age 12. The camp is sponsored by 704th Services and run by skilled professionals through the University of Northern Iowa. Activities are held Monday-Friday at the Youth Center from 7:30 a.m.-4:30 p.m. Children may attend any or all weeks but attendance information should be completed at time of registration. Each week is set to a theme and activities are planned to coincide with that theme including field trips to local attractions. Morning and afternoon snacks and beverages will be provided. Parents must supply their child with a daily sack lunch to include beverage (no carbonated beverage of any kind). Ensure that lunches are clearly marked with child's name. Cold items can be accommodated in the central refrigerator; however, meals will not be able to be heated. Outdoor and swimming activities are planned throughout the week (weather permitting). Each child should bring daily to camp an extra pair of clothing, swimsuit, towel and sunscreen, if needed. Closed toe shoes must be worn at all time during camp. Fill out the Camp Adventure Application and return it, along

with the other required documentation and weekly fees, to the Youth Center no later than two weeks prior to start date. For questions or more information call 454-3277.

Fitness Center 454-6440

Group Class Big 5 Challenge at Fitness Center in April. The Fitness Center challenges all eligible group class participants to complete one of each class during the month of April. Choose from Cycling, Yoga, Pilates, Piloga and Zumba. This challenge is designed to show the diversity of group classes offered and encourage individuals to try new forms of physical activity. Participants who complete the "Big 5" will receive a prize. Cycle Pump classes are Monday (easy paced), Tuesday (endurance) and Thursday (challenging) from 11 a.m.-noon. Yoga is on Monday from 11 a.m.-noon. Zumba is Tuesday and Thursday from 4:15-5:15 p.m. Pilates is on Wednesdays from 11 a.m.-noon. Piloga is on Fridays from 11 a.m.-noon. Cycling and Zumba classes are held in the Eagles Nest room upstairs. All other classes are held on the gym floor.

Open League and Women's League Softball will begin the end of April. Get your teams together now and sign us as individuals or teams. Games will be played on Mondays for Women's League and Tuesdays and Thursdays for Open League. Three games are played each night beginning at 5:30 p.m.

Outdoor Rec (ODR) 454-6084

Trip to The Lost Sea Adventure coming May 15. Sign up by April 9 for this all day trip to Sweetwater. This event is a tour of the largest underground lake in America. Two tours will be done. The adventure begins with a guided tour of the caverns. This involves a three-quarter mile round-trip walk on wide sloping pathways. While touring the caverns and underground lake guides will tell of the cavern's exciting and colorful history. They will also explain the fascinating geological development of the immense cavern rooms and rare formations. At the bottom of the cave board a glass-bottom boat for an exciting trip on the Lost Sea. The lake, covering more than four acres, is recognized by the U.S. Department of the Interior as a Registered National Natural Landmark. This is due to the natural phenomenon of the lake as

well as the abundance of a large collection of rare anthodites, more commonly known as "Cave Flowers." The lake is located 140 feet below the ground level, so coming up can be a hike. The tour lasts approximately one hour and 15 minutes and the temperature remains a pleasant 58 degrees. Along with the boat ride and cavern tour, the flashlight tour delves into an undeveloped section of the cave. This portion lasts approximately one hour and 35 minutes. Be sure to bring a flashlight and money for meals. The trip departs from Outdoor Rec at 8 a.m. and will end at 6 p.m. Cost is \$40 per person (\$25 for ages 12 and under). There will be a cancellation fee of \$10 if canceled after April 30. There must be a minimum of 20 participants to take this trip. Maximum capacity is 26.

Paintball set for April 10. Ages 10 and older are invited to play. Meet at Outdoor Rec at 9:30 a.m. Cost is \$20 and includes lunch. Remember to wear long sleeved shirts and long pants.

Would you be interested in a "Good Time in Gatlinburg" June trip package? The trip would possibly involve whitewater rafting on the Pigeon River, a zip line tour of the Smokies and a dinner show at the Dixie Stampede. The following package options are being offered. Package 1: one night, two days (June 5-6) with zip line and Dixie Stampede for \$245. Depart from ODR at 5 a.m. June 5, ride the zip line at 1 p.m. EST then Dixie Stampede dinner and show at 8:30 p.m. EST. Return to ODR approximately 4 p.m. June 6. Another alternate to this package is departing at noon June 4 with Dixie Stampede at 8:30 p.m. EST then zip line at 1 p.m. EST June 5 and return to ODR approximately 8:30 p.m. Package 2: one night two days (June 5-6) with whitewater rafting and Dixie Stampede for \$215. Depart from ODR 5 a.m. June 5, rafting at noon EST then Dixie Stampede at 8:30 p.m. EST. Return to ODR approximately 4 p.m. June 6. An alternate to this package is depart at noon June 4 with Dixie Stampede at 8:30 p.m. EST. Raft at 11 a.m. EST June 5 and return to ODR approximately 5:30 p.m. Package 3: one night, two days (June 5-6) with rafting, Dixie Stampede and zip line for \$280. Depart from ODR at 5 a.m. June 5 then raft at noon EST and Dixie Stampede at 8:30 p.m. EST. Zip line at 11 a.m. EST then return to ODR approximately 5:30 p.m. All packages are set activities and there is no omitting of unwanted activities. If you are interested in any of these options, call 454-6084.