



HIGH MACH

Serving the World's Premier Flight Simulation Test Center



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Economic impact for 2010 tops \$690 million

By Darbie Sizemore
Aerospace Testing Alliance

AEDC's economic impact – which includes AEDC and its remote operating locations – the Hypervelocity Tunnel 9 at White Oak in Silver Spring, Md., and the National Full-Scale Aerodynamics Complex at Moffett Field, Calif. – was \$694 million.

Each location impacted the local areas through payroll, secondary jobs created through local spending, and other expenditures for supplies, utilities, fuel and services and the spin-off impact of those purchases. AEDC's impact for each operating location is: Tennessee \$656.2 million, Maryland \$19.1 million and California \$18.6 million.

AEDC employed a mixture of active-duty military personnel from the Air Force and Navy; Department of Defense civilians; and contractor personnel, which totaled 2,562 personnel in fiscal year (FY) 2010. Of the 2,562 personnel, 66 were active-duty military; nine Air

Force Reserve and National Guard; 318 appropriated fund civilian employees (includes general schedule, federal wage board and other military branches); 64 government non-appropriated fund employees; 42 other civilians (credit union, base exchange and commissary tenants); and 2,063 contractor and sub-contractor employees.

Additionally, using the Tennessee Valley Authority economic impact model methodology, AEDC estimated that approximately 1,800 secondary jobs were created in the local area, for a total of approximately 4,400 jobs directly related to AEDC. Examples of secondary jobs include those created by home construction, and at local supermarkets, car dealerships and department stores.

During FY 2010, the payroll cost for AEDC government and contractor personnel was \$282 million. AEDC's direct expenditures – which include utility costs, service contracts with outside vendors and military health insurance paid to lo-

AEDC Fact Sheet:

- AEDC responsible for 2,562 direct jobs plus another 1,800 estimated secondary jobs
- Payroll expenditures were \$282 million
- Base expenditures topped \$468 million
- Adding value of customer field offices, total monetary value exceeds \$1 billion

cal doctors and hospitals – was more than \$468 million. Furthermore, the indirect spin-off impact of these direct expenditures is approximately \$226 million.

The overall economic impact figure does not include the estimated \$93.4 million paid to the approximately 4,323

retired military personnel living in the local area. In total, this retired pay group generates more than \$137 million, including the spin-off effect.

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AEDC's Christmas Spirit on Display



AEDC children get ready for the holidays with a ride on the base's float in the Tullahoma Christmas Parade Dec. 3. For more Christmas photos, see the children's Christmas party gallery on page 9 and the ATA and Department of Defense holiday party photos on page 10. (Photo submitted by Master Sgt. George Allen)

Engine test team reaches important milestone

By Philip Lorenz III
Aerospace Testing Alliance

The Pratt & Whitney F135 short takeoff/vertical landing (STOVL) variant propulsion system took one more step toward government certification recently with the successful completion of one of the most rigorous, demanding tests in the entire qualification program.

The high temperature margin test which took place at AEDC involves intentionally running the engine to turbine temperatures beyond design conditions while simultaneously operating the turbomachinery at or above 100 percent of design conditions.

John Kelly, Arnold's program manager for the engine entry, said the F135 test that was conducted in AEDC's C-1 altitude test cell stood out for all involved with it.

"To watch the test from the Control Room [was noteworthy]," he said. "When we were observing the tail of the engine with our centerline periscope camera, you could see the difference in the color intensity of the hardware. [During] a normal [operating] condition you can just barely



AEDC's John Kelly and Jeff Dodd inspect the F135 engine that will power the short takeoff/vertical landing (STOVL) variant of the F-35 Joint Strike Fighter. Kelly, AEDC's Navy project manager on the recently completed F135 engine milestone test, and Dodd, Aerospace Testing Alliance's project manager on the test entry, were proud to play a role in the test, a milestone in the JSF program. This successfully completed test brings this Initial Service Release F135 engine closer to being certified by the government for flight testing and subsequent use in the fleet. (Photos by Rick Goodfriend)

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Internal "Giant Voice" fix saves money

By Patrick Ary
Aerospace Testing Alliance

You could say the "Giant Voice" that sends messages across AEDC has been suffering a case of laryngitis over the last couple of months.

Now, base workers have installed their own cure for it that also resulted in savings for AEDC.

Some may have noticed the base Mass Notification system's public address messages have been quieter in the last few weeks. This has to do with the type of software that's being used to send those messages.

Several months ago the Air Force Materiel Command directed the installation of AtHoc, a software modification to the notification system that would allow free-formatted messages to be broadcast to the base population. The system will be the standard for all AFMC bases.

Up until the update, the Operations Center had only a limited number of prerecorded messages they could send out, according to project manager Stephen George. With the new system, they have the flexibility to send out messages that better fit the situation.

Base technicians gave the AtHoc vendor all the information they needed to switch the Giant Voice system over to the new interface. But once AtHoc workers finished with the installation, George said



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HIGH MACH

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An Air Force Materiel Command Test Center

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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

The holiday season ... will your light shine brightly?

By Col. Michael Panarisi
AEDC Commander

With Christmas, Hanukkah, Kwanzaa and a host of other celebrations underway, it's become a tradition to decorate our homes, offices and public places.

Nearly every holiday theme includes colorful lights.

Drive down main street, and you'll see countless displays in shop windows, hanging on the street posts and adorning homes everywhere in the neighborhoods.

These lights really add some "sparkle" to the season, and help us all share in the celebrations.

But where did the tradition of using lights come from? What do all these lights really represent? As you can imagine, the list of explanations is long and varied, but I have a favorite.

This story tells of a farmer, deep in the woods, huddled around the fireplace with his family in the middle of a big winter storm. The wind howled outside, and reached down through the chimney, fanning the flames.

Before long, the wood supply ran low, and the farmer decided to brave the storm and head outside to gather more wood. He bundled up and headed out.

He didn't think he would have far to go, but in the blowing snow, he lost sight of his home and struggled to find his way back.



Panarisi

The family was worried when he did not return in a few minutes and called out to him from the doorway.

All they heard was the howling wind, and found no sign of him.

Fearing he was lost, they decided to help him find his way home by putting candles in the windows and even tried to attach candles to the trees around the house.

The storm blew the candles out almost immediately, but the family kept trying.

As the storm subsided, they were able to light everything in and around the house.

They kept lighting candles all night, until, out from the dark forest, "father" appeared.

He was lost but saw the lights from a distance and found his way home.

And so it goes, the tradition of decorating with lights began.

I can't speak to the validity of the story, but like so many tales, you can find deeper meanings.

This story speaks of family, determination, self sacrifice and, most

importantly, how those in trouble will look for, and find comfort in, "light." In my mind, the story makes reference to a choice we all face. Where will we set our "lights?" How many, and for how long? The family in the story started by putting candles in the window. This act represents igniting an "inner light" first. I can't think of a more relevant theme for this holiday season.

While we have enjoyed a banner year at AEDC, it hasn't been easy for everyone. Although our test and support programs have once again delivered magnificently, we have suffered losses in our workforce, and in our families. For many, this season may not bring the joys we would all wish we could share. Thankfully, there is a way. Now is the time for all of us to crank

up our "inner lights." AEDC is many things to many people, but above all, we are a family. And just like the family in the story, we need to put our lights out for all to see, particularly those who can use a little light in their lives.

It can be as simple as greeting a colleague in the hall, or heading across the "sea of cubes" to wish someone a happy holiday season.

Maybe you can do more.

Join an activity at your church, volunteer to "ring the bell" at the mall or pitch in to help care for someone when their family member is deployed.

In all of these examples, it starts with a personal decision to put another's need before our own.

That's the essence of

the inner light. Not only will you make a difference in someone's life, you will inspire others to do the same. It spreads like wildfire.

As I have said on so many occasions, this is truly a special place, and it always comes down to the people in our AEDC family.

The inner lights here shine more brightly than anywhere else I've ever been.

It's been a real blessing to lead this organization in 2010, and I'm looking forward to another fantastic year in 2011.

I can't thank you all enough for making this assignment the highlight of my 25+ years.

Rebecca, Michael, Rebecca and I wish you all a blessed holiday and, from our family to yours, Merry Christmas!

Air Force leaders issue their holiday message to Airman

WASHINGTON (AFNS) – Secretary of the Air Force Michael Donley, Air Force Chief of Staff Gen. Norton Schwartz and Chief Master Sgt. of the Air Force James Roy send the following holiday message to the Airmen of the U.S. Air Force:

As we celebrate the holidays, please take the opportunity to reflect on our many blessings as Americans, and to remember the people who most enrich our lives.

We also should contemplate our broader aspira-

tions that, given the many demands of very busy lives, we often neglect to consider throughout the year.

Also, especially while many remain engaged in combat operations across the globe, we are thankful for the men and women who have answered our nation's call, and selflessly serve to defend our country and preserve our precious liberty.

Those who are spending this special time of the year away from friends, family and loved ones are particularly worthy of the deep and abiding respect of fellow Airmen and of a grateful nation.

We look forward to their safe return home.

We also honor the quiet sacrifice of family mem-

bers who sustain and bring great personal meaning to the service of their loved ones.

Those of us with the good fortune to be able to celebrate the holidays at home amongst family and friends remember our deployed Airmen and their family members who miss them.

We ask that you reach out to these families as well as our single Airmen, and in the spirit of giving and support that makes our Air Force so special, we ask that you welcome them into your holiday celebrations.

In all of the joyous ways that we celebrate this holiday season, we wish you and yours the very best during this special time, and throughout the new year.

Time to inspect and clean heating equipment is here

As temperatures drop and home heating systems kick into gear, remember to get your home heating systems inspected and cleaned as soon as possible.

That's a key message from the nonprofit National Fire Protection Association (NFPA) and the U.S. Fire Administration (USFA), who are teaming up to reduce the risk of home heating fires.

According to NFPA, home heating equipment is the second leading cause of U.S. homes fires; failure to clean heating equipment is the most common reason for these fires.

Through their joint winter fire safety campaign, "Put a Freeze on Winter Fires," NFPA and USFA urge everyone to get their home heating systems inspected and cleaned annually by a trained professional.

This will ensure that your home heating system is working properly and can significantly reduce your

risk of associated fires. If you have a chimney, make sure it's also inspected and cleaned, if necessary, by a trained professional.

Creosote - a sticky, oily, combustible substance created when wood does not burn completely - rises into the chimney as a liquid and deposits on the chimney walls, causing nearly one-fourth of all home heating fires.

Implement the "3 Feet Away" rule of thumb for a fire-safe home.

Placing a heat source too close to things that can burn is a leading cause of home heating equipment fires, and it's the leading cause of related fire deaths; on average, more than half (52 percent) of all home heating fire deaths result from heating equipment being placed too close to things that can burn.

For more heating safety advice from NFPA and USFA's "Put a Freeze on Winter" campaign, visit <http://www.nfpa.org/winter>.

Since You Asked...

What is the worst thing ever invented?



Robert Sotherland
"The cell phone."



Lori Ayres
"Pantyhose!"



David Taylor
"TV. It corrupts these kids' minds."



Deb Myers
"Chia Pets."

Action Line

Team AEDC

I believe in free and open communications with our Team AEDC employees, and that's why we have the Action Line available. People can use the Action Line to clear up rumors, ask questions, suggest ideas on improvements, enter complaints or get other issues off their chests. They can access the Action Line in one of three ways: via the AEDC intranet home page, Action Line boxes at the base cafeterias and by calling 454-6000.

Although the Action Line is always available, the best and fastest way to get things resolved is by using your chain of command or by contacting the organization directly involved. I encourage everyone to go that route first, then if the situation isn't made right, give us a chance.

Col. Michael Panarisi
AEDC Commander

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://lpapro.arnold.af.mil/PORTALimages/Smoking area map. pdf](https://lpapro.arnold.af.mil/PORTALimages/Smoking%20area%20map.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.

- Supervisors at every level will ensure this policy is followed. Disciplinary action is appropriate for repeated violations.
- Updates to this policy will be made in the future to further align with Air Force guidelines.
- This letter supersedes previous letter dated 28 October 2006, subject as above.

New training facility is open for business



From left, Aerospace Testing Alliance General Manager Dr. David Elrod, AEDC Director of Personnel Tom Sizemore, AEDC Lead on Training Room Project Christine Caldwell, AEDC Commander Col. Michael Panarisi and Mission Support Division Director Col. Robert Bender take part in a ribbon-cutting ceremony for a new training facility in the A&E Building Dec. 13, 2010. (Photo by Rick Goodfriend)

By Philip Lorenz III
Aerospace Testing Alliance

A ribbon-cutting ceremony held Dec. 13 on the first floor of the A&E Building at AEDC, marks the availability of the base's new training facility.

AEDC Commander Col. Michael Panarisi presided over the ceremony with Col. Robert Bender, Mission Support Division director, ATA General Manager Dr. David Elrod, Tom Sizemore, AEDC's director of personnel, and Christine Caldwell, the lead on the project from AEDC's civil engineering branch's programs section.

Sizemore said he is pleased with the new addition.

"We needed some better training facilities to be able to provide testing for some of our military personnel," he said. "We [also] want to bring in some vendor training, meetings and conferences, workshops, retirement seminars and other types of seminars. We just had a multitude of requirements that [drove the] need for a facility of this type – a [place] that is centrally located where we can bring personnel together.

"This is nicely located, it's on the first floor, it's accessible to our cafeteria and it has a nice lobby or break area just outside the training facility. So, the location ensures we can hold training sessions, seminars, etc., that won't be disruptive to

other areas of the work force. It will be a very well utilized facility."

The room will be able to accommodate approximately 60 people and can also be divided into two rooms of 34 and 26 respectively with an easily assembled wall that has acoustic panels installed to reduce noise between the resulting two classrooms.

Sizemore said one example of the kind of classes to be held in the new training facility will include "our weighted airmen promotion testing."

"We [now] have a facility that meets mandated lighting, sound and space requirements, etc.," he explained. "We didn't have a facility that was certified on the base that met all requirements until we established this facility."

Caldwell said she was assigned to complete the training room project midway through its execution.

Describing the features of the most recent addition to the A&E Building, she said, "We have new audiovisual equipment, it also [allows the users to] connect to the network. We can have training [and] testing in here. It meets all the requirements for testing, [including] individual thermostat controls to keep it at a comfortable temperature. You can adjust the

See TRAINING, page 5

New assault response coordinator on the job

AEDC employee wants to educate more Airmen, civilians in her new role on base

By Patrick Ary
Aerospace Testing Alliance

It's not a prevalent problem at AEDC, but when it happens it can resonate throughout a unit and beyond, hindering readiness by the trauma it causes the victim, and the degrading nature it renders to the team. The entire life, in and out of work, is affected for the victim. The current Sexual Assault Response Program motto says it all. It "Hurts one. Hurts all." It even affects bystanders.

Now, AEDC has a new person entrusted with handling those cases, should they occur.

After receiving training in September, Sue Sipe took on the duties as a sexual assault response coordinator (SARC) in October. Sipe is a secretary in AEDC's contracting office and took on the extra duties after seeing a posting for the job.

"I believe I was put on Earth to serve others by saying or doing something that adds some kind of light to their life," Sipe said. "Helping a vulnerable person in a time when they have lost all trust to trust again is important."

The population at AEDC is very different from that at a training base, Sipe said. Because there are fewer young people here in the age range where more sexual assaults typically occur, there is not a full-time SARC. Sipe serves in that role and as an advocate for victims. Once paperwork on a case is complete, it is forwarded on to the official SARC at Eglin Air Force Base in Florida.

Now that she's on the job, Sipe wants to make sure Airmen and Air Force civilians know what's available for them.

"Expect to see some changes to the program at AEDC in the near future," Sipe said. "All new DoD employees will now be briefed on the sexual assault prevention and response program at AEDC as part of in-processing. They will be given cards at that time with emergency information should a need arise. There is also a quick response pack being prepared for supervisors. Expect to see more information and prevention tips in various media outlets throughout the base in coming months."



Sue Sipe recently took on new duties as AEDC's new sexual assault response coordinator for Air Force personnel. (Photo by Rick Goodfriend)

Because the population at AEDC is typically older, married and more grounded, Sipe said many people may not be as familiar with the sexual assault response resources.

"When you think about the demographics at Arnold, we have a lot of people who may not be in that 18-28 age group most likely to be assaulted," Sipe said. "But we have a lot who have kids in that age group. Working together, we can give them some tools to be more prepared to recognize potential high risk situations."

DoD dependents over age 18 are covered under the SARC program, according to Sipe.

Airmen and Air Force civilians who need help can call the Arnold Sexual Assault Hot Line's 24-hour number at (931) 581-7494. Sipe is on-call 24 hours a day to help when someone needs it. She invites those with a need or simply an inquiry to contact her. Calls are confidential.

"Being the victim of a crime such as a sexual assault can be devastating," Sipe said. "Sharing your story with someone can be extremely difficult, as the victim may feel they are re-living the occurrence again and again. It is a necessary component to overcome this type of trauma."

Sipe says her role is to advocate for the victim and help them navigate through a difficult time by providing emotional support and education, accompanying the survivor to appointments if they desire, performing crisis intervention and collaborating with other helping agencies on the victim's behalf. The advocate can also provide accurate information on medical, investigative and legal services for a victim.

See ASSAULT, page 7

UTSI students honored for work with AEDC

Four students recognized for their efforts in educating community

By Shawn Jacobs
ATA Public Affairs

The American Institute of Aeronautics and Astronautics (AIAA) recently honored four University of Tennessee Space Institute (UTSI) students for their educational outreach in supporting projects through AEDC.

The awards were handed out Nov. 17 at the UTSI cafeteria during the AIAA Tennessee Section's annual luncheon to honor individuals whose research and service achievements go above and beyond in furthering science and engineering or in providing education outreach.

Ben Klamm, James Rogers, Rayne Sung and Andrew Wilson were instrumental in a community effort aimed at promoting interest in science, technology, engineering and mathematics (STEM).

The students were nominated by Tom Best, AEDC director of engineering and technical management, and Dr. Stan Powell, an engineering specialist in AEDC's Technology Branch.

Dr. Trevor Moeller of UTSI's mechanical, aerospace and biomedical engineering (MABE) department accepted an award on behalf of the student branch of the Tennessee Section of

AIAA for its support of the Arnold Association of Professional Society's (AAPS) "Build Your Own Missile" booth held Sept. 18 during Polly Crockett Days in Cowan.

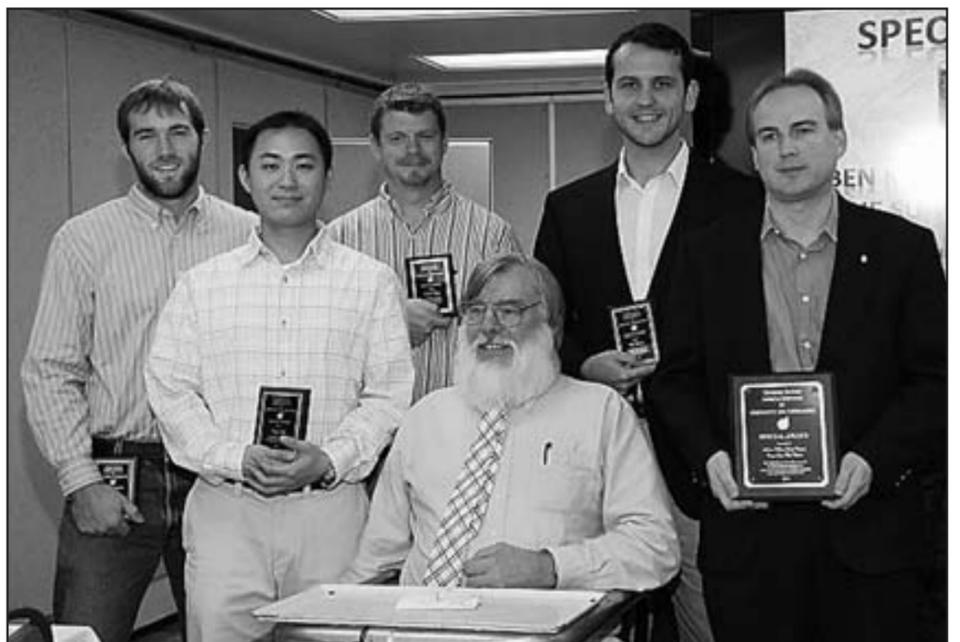
"That was the first opportunity we have had to make use of the students, but we hope to do more cooperative outreach programs with them," said Dr. Powell, who presented the students with their awards. "The students enjoyed it, and they were very good at it."

Dr. Powell is the pre-college outreach member of the local AIAA Council and is a member of the national committee that oversees the pre-college outreach programs for AIAA, as well as the committee that oversees programs for college-age students for the organization.

"You never know what will spark a middle school student's interest, but if they're not exposed to the idea of the fun things that engineers do they won't even consider it later on," Dr. Powell said. "These kinds of programs are important because they expose them to options that they would not otherwise have considered."

Several other UTSI students and faculty were also recognized at the luncheon.

Brian Maicke received the AIAA Award for displaying



AEDC Engineering Specialist Dr. Stan Powell (seated) presents AIAA awards for educational outreach to UTSI students James Rogers, Rayne Sung, Andrew Wilson and Ben Klamm, Nov. 17. UTSI Professor Dr. Trevor Moeller (far right) accepted on behalf of the student branch of the Tennessee Section of AIAA. (Photo provided)

remarkable spirit, teamwork, leadership, support and mentorship. The award recognizes his research in the fields of high speed propulsion and theoretical modeling of aerospace engineering problems.

He has also helped to develop two short courses for AIAA covering topics in hybrid rocket analysis and perturbation methods. Maicke was nominated by Professor Joe Majdalani, Arnold Chair of Excellence in Advanced Propulsion.

Professor Jay I. Frankel of the MABE department received the prestigious General H. H. Arnold Award for outstanding personal contributions to the advancement of thermal analysis in harsh rocket environments and high speed propulsion systems.

Frankel is an active researcher in the area of integrating advanced measurement concepts and new sensor technology into a formulation for predicting heat-flux variations and temperatures in harsh environments, such as

hypersonic combustors.

Frankel will be the Technical Chair for Thermophysics at the 50th Aerospace Science Meeting (ASM) to be held in Nashville in January 2012. He was nominated by Professor Joe Majdalani.

UTSI Executive Director Dr. Robert Moore commended the students and Professor Frankel as deserving recipients.

"To have such an active and supportive student section of AIAA speaks well for the university," Dr. Moore said.

F135 from page 1

see a red glow, but for this test condition, the glow of the hardware was much brighter and more intense, indicating we were up in temperature.”

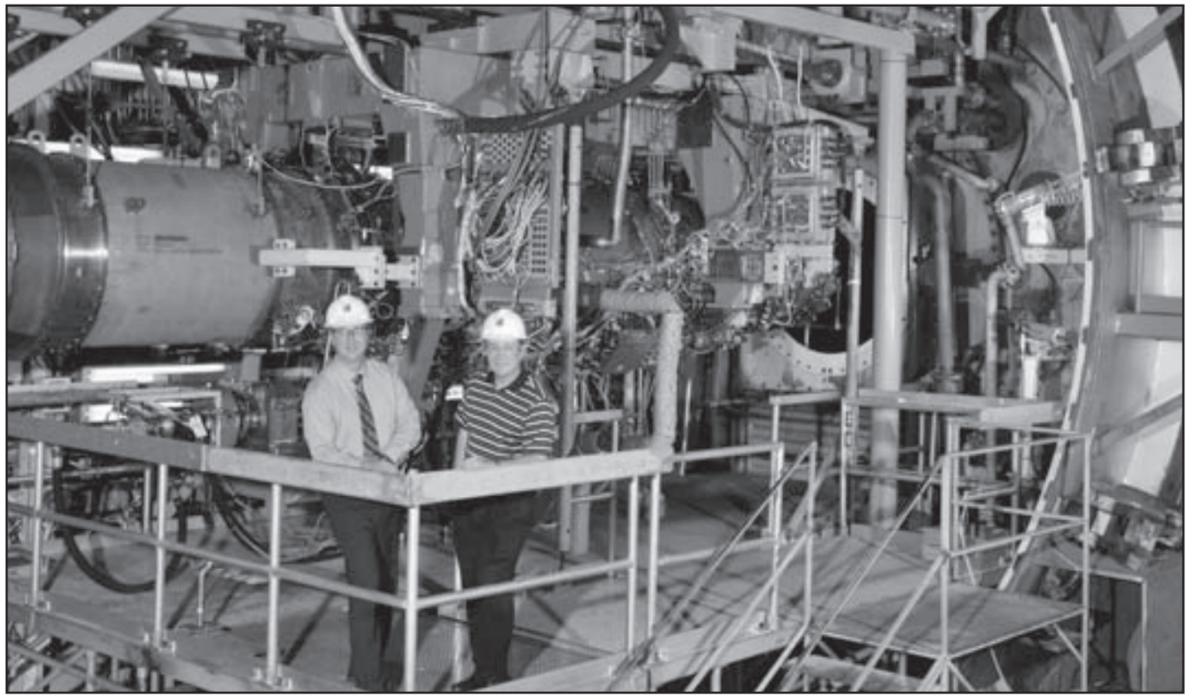
Tyler Evans, Pratt and Whitney’s director of F135 engine programs, put the test into perspective.

“While these are conditions the F135 engine will not experience during normal field operations, the purpose of this test was to demonstrate design margin at the most extreme operating conditions that could possibly exist,” Evans explained. “The engine that completed this test is in excellent condition. It will now complete STOVL powered lift performance qualification testing in West Palm Beach, one of the last steps prior to receiving Initial Service Release qualification from the government.”

Kelly added, “The ISR engine which we have just qualified gives them [JSF program office and Pratt & Whitney] a more representative production type of engine(s) for upcoming flight testing. This follow-on work with this engine will be more representative of what they will see in the fleet.”

Jeff Dodd, the Aerospace Testing Alliance program manager on the test, was pleased with the project and the way AEDC’s team worked together to complete a challenging test entry with a demanding schedule.

“It was a very successful test for the JSF program,” Dodd said. “This was a very efficient test program with low amounts of lost test time, it operated very efficiently and we met the requirements. It’s rewarding for me to see everything work well including all of the people involved and the facilities



From left, AEDC’s John Kelly and Jeff Dodd pose for a photo in front of the F135 engine that will power the short takeoff/vertical landing (STOVL) variant of the Joint Strike Fighter (JSF). (Photo by Rick Goodfriend)

to get the government and JSF program the data that they need to meet the milestones.”

Pratt & Whitney F135 Validation Director Cheryl Lobo, had praise for the center’s test team.

“The F135 Validation group at P&W thanks AEDC for their willingness to work with them to accomplish this testing quickly and efficiently,” she said. “Test results from AEDC are being used to write verification reports for the STOVL variant engine as P&W seeks final certification later this year.”

She added, “This test was the last in a series of tests run at AEDC over the last month which are being used to validate the altitude performance characteristics of the P&W STOVL ISR engine.”

The Pratt & Whitney F135 continues its steady progress through development testing and validation into full production and sustainment. The F135 has completed more than 15,000 hours of testing and the Conventional Takeoff and Landing (CTOL) / Carrier Variant (CV) engine received Initial Service Release (ISR)

in February indicating that the engine has met ISR requirements for safety, reliability, durability and performance, and is now cleared for use in the field. Pratt & Whitney has delivered all flight-test engines required for the program as well as the first 10 production engines. The STOVL F135 engine is scheduled to receive ISR certification before the end of the year.

Pratt & Whitney’s F135 engine powers the F-35 Joint Strike Fighter for the U.S. Air Force, Marine Corps and Navy, as well as for eight international partner countries.

IMPACT from page 1

Additionally, these figures do not include the impact from test customers like Pratt & Whitney, General Electric or other companies who maintain staff at AEDC to manage tests of their products or participate in the test

process. When the monetary amount of customer field offices are added, AEDC’s economic impact exceeds \$1 billion.

The economic impact data and secondary employment estimates represent AEDC’s economic

impact during FY 2010, which runs from Oct. 1, 2009 to Sept. 30, 2010.

AEDC operates the world’s largest complex of ground test facilities with a replacement value of more than \$11.3 billion.

VOICE from page 1

AEDC technicians noticed some messages were going out to siren units at half the expected volume.

Working with the company to fix the problem didn’t result in an acceptable solution, George said. When AtHoc said they didn’t know what the problem was, workers at AEDC started looking at the rest of the communications system and found the problem.

“After some research we discovered that AtHoc didn’t take into account the system is narrow-banded, which meant the system couldn’t pass the audio at an acceptable level,” George said.

After further troubleshooting instrument tech-

nician Brent DeSalvo discovered the problem was in the UHF radios installed in the siren units. The radios are limited in audio output because of Federal Communications Commission requirements.

DeSalvo decided to test a narrow-band radio that used VHF frequencies, and George said testing determined that the VHF narrow band would output the volume at an acceptable level. After that it was just a matter of getting the new equipment and taking the system offline Dec. 3-4 to install it in building units and pole-mounted units.

External vendor quotes to achieve acceptable volume levels came in at more than \$100,000. The solu-

tion implemented by the radio shop was only \$16,000.

George says the problem never should have gotten as far as it did, but workers at AEDC did a good job responding to the issue.

“Our guys did something they shouldn’t have to do,” he said. “Our guys basically figured out there’s an interface problem from a downward-directed system, and we figured out what that problem was and fixed it ourselves.”

Now that the system is running, the Operations Center has the flexibility to use the Mass Notification system for ad hoc “Giant Voice” addresses.

“It is a good thing,” George said, “and it is a good fix by our folks.”

Angel Tree Donations

A counselor from the Center for Family Development counts bags of toys from the AEDC Angel Tree drive as ATA employee Janet Feller watches. The center – which serves needy families in Bedford, Coffee, Franklin, Lincoln, Marshall and Moore counties – identified approximately 200 Angels for AEDC. All 200 children were sponsored within 24 hours. AEDC Angel Tree chairperson Janet Gammon wrapped the donated items in garbage bags, with the help of coworkers Janet Feller and Chris Bird, and stored them until CFD counselors picked the items up. The Employee and Community Activities Committee has sponsored the AEDC Angel Tree since ATA became the prime contractor at AEDC. (Photo submitted by Mark Gifford)



Technical poster competition winners announced

By Shawn Jacobs
Aerospace Testing Alliance

The winners of the first Technical Excellence Poster Competition were announced Nov. 18 during the Technical Excellence Lunch and Learn Seminar.

The posters, featuring projects by AEDC early career engineers, were presented for judging Oct. 21 in a session sponsored by the Arnold Association of Professional Societies (AAPS) in conjunction with the AEDC Technical Excellence Board.

Taking first place in the competition was Inna Kurits, a project engineer at Hypervelocity Wind Tunnel 9 in White Oak, Md., for her presentation, *TSP (Temperature Sensitive Paint) System Development and Implementation at AEDC Tunnel 9*.

Andy Escue, a modeling and analysis engineer for Dynetics, captured second place with *Transient Model of a Steam Accumulator*.

Third place involved a three-way tie between Brian Binkley, an engineer/scientist and propulsion analyst in Facilities and Test Technology, *Modeling and Analysis of Eductor System Performance*; Carrie Reinholtz, a technology project manager in the Technology Branch, *Background-Oriented Schlieren Capabilities (BOS) at AEDC*; and Kent Wilcher, a scientist/engineer working in the Instrumentation and

Diagnostics Section of the Technology and Analysis Branch, *Combustion Diagnostics Using Extractive Gas Analysis*.

Twenty-four engineers, all with 15 years of experience or less, presented posters highlighting their work over the last two years. They represented all areas of AEDC and Tunnel 9 and included members of the military, government and contractor work forces.

Dustin Crider, Aerospace Testing Alliance (ATA) Space and Missiles Technology project manager and chair of the American Institute of Aeronautics and Astronautics (AIAA) Tennessee Section Young Professionals, helped organize the event and was pleased with the number of participants.

"We were very excited to have that many," he said. "The room was full. The real purpose of the event was to develop technical excellence with the early career professionals, engineers and scientists and government contractors, and to help them develop technical writing skills, presentation skills and also get visibility for their work."

"The early career work force does a lot of great work out here, and we want to make people aware of it. These employees are the foundation and future of AEDC."

Dr. Heard Lowry, ATA

See POSTERS, page 7



Inna Kurits receives her first place award in the Technical Poster Contest from AEDC Tunnel 9 Director Dan Marren Dec. 13. (Photo provided)



Above left, Technical Poster Contest winners accepted their plaques Nov. 18. (front row) Carrie Reinholtz, third place (tie); Brian Binkley, third place (tie); Andy Escue, second place; Tom Best, AEDC technical director of plans and programs. (back row) Dustin Crider, Aerospace Testing Alliance (ATA) Space and Missiles Technology project manager and chair of the American Institute of Aeronautics and Astronautics (AIAA) Tennessee Section Young Professionals; Dr. Joseph Sheeley, ATA technology engineer in Facilities and Test Technology and past chairman of AIAA. In the right photo, Kent Wilcher, third from left, accepts his plaque for tying in third place Dec. 14. (Photos by Rick Goodfriend)

TRAINING from page 3

lighting, [we have] seats that are adjustable and moveable tables and chairs and acoustical wall panels to ensure that the testers aren't disturbed by activities out in the hall.

"This project was successfully completed through the collaborative efforts of several base organizations, including the

Space Utilization Working Group, the Workforce Development Branch, the Civil Engineering Branch, the Contracting Division and ATA Design and Project Management. G Squared Construction, Inc. was the main contractor – this was their first project at AEDC and they did an outstanding job."



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AEDC employee featured as student success

Emily Dutton rebounds from car crash to continue school

By Patrick Ary
Aerospace Testing Alliance

Like many young people venturing out into the world after high school, Hillsboro resident Emily Dutton has changed the path she wants to take in life more than once in the last couple of years.

Sometimes, the path has changed for her.

When she's not working in the contract management office at Arnold Engineering Development Center, Dutton, 20, is working on finishing up another semester at Motlow State Community College.

With graduation on the horizon, she is ready to move on to the next chapter in her life – after the book on it nearly closed for good a year ago. And she's thankful that making it through the toughest test of her life so far now is being used to inspire others.

"It does feel good to know that my hardship can make somebody else realize they can do it," she said.

It was this time last year, that Emily's life was about to change forever.

She had just finished finals at Motlow on Dec. 16, 2009. Three nights later, she was riding in the back seat of a friend's car when the driver lost control on the rainy roads. Some 150 yards later the car came to a stop in trees alongside the road. The crash was so severe, Emily says one of the tires ended up sitting right behind the driver's seat.

The passenger in the front seat suffered a concussion and a ruptured spleen. The driver of the car ended up walking away with a scratch on his leg.

Emily spent the next 47 days in the hospital.

She can tell you these facts, but it's secondhand information.

"I don't remember it at all," she says.

What she does remember is leaving her friend's house the night of the accident. Her next memory is waking up in a trauma unit at Vanderbilt Hospital 11 days later with a broken neck, back and leg.

Her left arm was paralyzed, and she couldn't talk because of a tracheotomy

tube inserted in her neck to help her breathe.

She had missed Christmas. She would end up not celebrating the New Year's holiday. She would even miss watching her favorite college football team, the Alabama Crimson Tide, winning a national championship.

"I didn't know anything," she said. "I had to write my mom a note and ask her if I had wrecked my car. I didn't really know what was going on."

Today, the body brace she wore is gone and she walks without the help of a cane or wheelchair. She can move her arm again. The damage is still there though, beneath the skin. She has a metal rod in her leg. There are two rods and six screws in her neck, and she's only able to turn her head about half the distance most people are able to do.

And while her arm is no longer paralyzed, it's not at the strength level she wants it to be yet. That forced her to change her first career choice. Her dream of becoming a nurse is no longer an option because of the damage to her arm.

"It needs to be really strong before I could go to a nursing program," she said. "And I want to make my career before that has time to get all the way better, I think."

Now, Emily's need to get back in the classroom has drawn her into the spotlight on Motlow's website as a Student Success Story. The Student Success Story program is designed to inspire other students to reach their academic goals. Her story is one of the first to be profiled.

Despite the injuries she received and the intense road of recovery she has been on, Emily started back to school at Motlow this past fall. After all the pain, the time in the hospital, the wheelchairs and braces, the surgery and learning how to move again – she ended up missing only one semester of school. She also is on track to graduate on time in May of 2011.

That's one of the reasons Motlow Director of Student Success Rhonda Cotham wanted to feature her as one of the success program's first stories. Cotham, who is also Emily's academic adviser, says she was impressed by her will to continue in school after her dream of becoming a nurse was taken away.

"I feel it is important for students to see that drive and determination," Cotham said. "Many of them may feel like stopping when life throws them a curve. Emily's story of determination is definitely a valuable one to students who may not feel that they can keep going."



Hillsboro resident Emily Dutton, who works in AEDC's contract management office, has been featured as a Student Success Story on the Motlow State Community College website. Dutton missed only one semester of classes after being severely injured in a wreck in December 2009. (Photo by Rick Goodfriend)

Emily says one of the moments it sank in that life had thrown her a curve was when her friends came to visit her in the hospital, a day before going back to class from the holiday break. It hit her then that she would not go back with them.

"All you ever hear about school is once you take a break, you don't go back," Emily said. "Once you sit out one semester, you can give it up. You're never going back. And I know my circumstances were different. I wasn't just sitting out because I wanted to, but I felt like maybe that would happen. I would come home and get to working again, and that would just be it."

Her desire to get back on her feet didn't stop in the classroom, either. Before she was even out of rehab, Emily was trying to get her mother to sign her up for the next softball season (she didn't). She was back at work at Red Lobster just two months after getting out of the hospital. She was no longer able to wait tables, so she worked as a hostess. Chalk it up to being stir-crazy.

"I'm a people person," she said. "I can't stand to just sit."

The physical toll was hard on Emily, even though her managers at the restaurant were accommodating. She also had to deal with the emotional toll – answering countless questions about the noticeable loss of motion in her neck.

So Emily started thinking about other career options, which led her to AEDC. She learned about the Stay-in-School program for students and decided she wanted to get her foot in the door on the base. She landed a job as a secretary in the contract management office in September. Emily says she plans to stay as long as she can, because the people she works with are kind and know what she's been through.

"I couldn't have asked for better people to help me deal with it," she said. "I feel like they know before they have to ask what I can and can't do."

Joe Warren, the director of contract management, said Emily has been a breath of fresh air in his office. He said she's an asset to the Stay in School program, and they will keep her in the office for as long as they can.

"She's the first person that people see when they come through the door, and she's always got a smile on her face," Warren said. "They can be in a bad mood when they come in the door, but they're in a good mood when they go out."

After graduating from Motlow in May, Emily plans to continue school at Middle Tennessee State University, possibly earning a business degree and putting it to use at AEDC. Many people will be watching to see where she ends up.

POSTERS from page 5

technical fellow for space sensors, was one of 12 judges who volunteered to evaluate the posters. He said he was very impressed with the quality of the posters presented.

"I was kind of surprised at the high level of each of these," he said. "It was very difficult to judge, to discern differences, because they were all just that good."

Dr. Lowry said judges were provided with a score sheet listing various criteria to help them evaluate the posters.

"One of the most critical of these was how the people

did in their presentation," he said. "How they answered questions was another key. The technical challenge was important, too, and we had to think about how hard this work was to do.

"Several of them were presented with a challenge and came up with a very innovative solution. We tried to judge each of these levels and count the scores, and there wasn't a big variation."

Crider said the presentations filled the Large and Small DO Conference rooms in building 1099, and at least 100 people showed up to view the posters.

ASSAULT from page 3

"Since the advocate is functioning in a special role, it is a position of trust and confidence like that of a chaplain or health service," Sipe said. "Sometimes it is just being there for the victim."

There are two different ways to report a sexual assault, Sipe said.

Military and civilians are able to file unrestricted reports if desired, which result in an OSI and command section investigation.

Restricted reports are available only to active-duty military and do not

result in an investigation. These reports are kept in confidence to the SARC.

At any time, a victim can change a restricted report to unrestricted in order to initiate an investigation.

During the reporting process, the victim advocate is there to clarify the options and provide answers to any questions the victim may have prior to deciding what he or she may want to do, Sipe said.

Now that Sipe has assumed her new duties, she is working to get the word out about the Sexual

Assault Prevention and Response Program at AEDC.

She plans to visit local health care agencies and base agencies who may be the first point of contact in a sexual assault case.

"I believe it is important to develop good personal rapport with the members of the various helping agencies we will relate with given we had an active case," Sipe said.

Sipe also hopes to have a military member trained soon.

The Air Force prefers to have part of the advocacy team represented by one of

their active duty members in order to help airmen who may prefer talking to someone in uniform about their experience.

Sipe says she will do whatever is needed to help people recover from a traumatic experience in their lives.

"I firmly believe that no matter what trials you go through in life," Sipe said, "with quality assistance and the right outlook, and time ... you're going to get through it without smelling like the fire you've been through."

Season's Greetings



The annual Children's Christmas Party was held Dec. 5 at the Arnold Lakeside Center. AEDC family members brought out their children for an afternoon of crafts, games and visits with some of their favorite holiday characters, including jolly old St. Nick.



Photos by Andrea Stephens

Mike Sadler

Master Sgt. George Allen

HOLIDAY JOY!



FUN



FAMILY



FOOD



FRIENDS



Deploying safety overseas in Iraq

ATA safety manager puts methods to practice in field

By Shawn Jacobs
Aerospace Testing Alliance

Elements of AEDC's safety campaign – known on base as “Beyond Zero” – have made it as far as Iraq and may be partially responsible for an entire unit of the Tennessee Army National Guard returning safe and sound from their recent deployment.

ATA Safety Manager Warner Holt held a different job as the facilities, operations and maintenance branch deputy manager before he was deployed last year in support of Operation Iraqi Freedom. Holt is a lieutenant colonel in the Army National Guard and is the commander of the Regimental Fires Squadron of the 278th Armored Cavalry Regiment, headquartered in Winchester. ATA's safety campaign had made such an impact on him that he was determined to make it a cornerstone of his command of the Field Artillery Squadron of the 278th, which deployed more than 500 troops and picked up another 500 troops when he arrived in Iraq.

During the deployment he was assigned as the garrison commander for Contingency Operating Sites Marez and Diamondback, and he commanded three organic Convoy Security Companies, which successfully executed more than 450 combat convoy escort missions throughout northern Iraq.

“It was a great mission,” Colonel Holt said. “Of the 500 troops we took over, everybody came home. We're proud of that.

“When I first learned about the mission, I started asking what our greatest threat is, and it was the IED (improvised explosive device). I went out to Fort Huachuca, Ariz., where they have a very concerted effort to defeat the IED. I went there to learn as much as I could about the IED and to get qualified as a tactical electronic warfare officer (TEWO), because that was our greatest threat.”

Colonel Holt said, even though he would not be performing in the TEWO role while in Iraq, he wanted to learn more about the IED so he could ensure his troops were properly educated on this threat. He said the school had never had a squadron commander attend their course and, after completing the TEWO qualification course, he had a better idea of who the right person would be to put in that critical position. He said his unit was very successful in defeating the IED while they were in Iraq. His troops sustained 27 IED, direct fire or indirect fire events while deployed, but no one was seriously injured.

Just prior to arriving in Iraq, Colonel Holt uncovered some additional information that surprised him. He learned that vehicle accidents – not IEDs – were actually the number one killer of troops. Unqualified soldiers driving the new Mine Resistant Ambush Protected (MRAP) vehicles was among the top safety violations responsible for accidents.

“They [MRAPS] were sustaining the blasts from the IEDs and saving the lives of our soldiers, but what was hurting them was driving these large vehicles without proper training, driving them too fast, not wearing seat belts, not wearing a gunner's harness – all things that are preventable,” Colonel Holt said. “I hit the safety issue hard and emphasized the fact that accidents are preventable because, not unlike here at AEDC, you look at the information and you do whatever you can to mitigate the risk.

“I met one-on-one with my troops in smaller groups ... and explained the safety trends, the risks and my expectations to them. I talked to them straight up about the aspects of safety and what's killing and injuring U.S. soldiers in Iraq. I think at that time there had been 16 or so deaths and serious injuries in the previous year due to preventable accidents and vehicle rollover events. Again, most of the time these deaths and injuries were due to not following basic safety procedures and not using personal protective equipment (PPE) such as wearing seat belts and gunner's restraints. My key leaders and I spent a lot of time and effort emphasizing the importance of following established procedures. Combat is not like playing a video game; there is no ‘do over’ button.”

The colonel said he actually applied



Above left, Lt. Col. Warner Holt, commander, and Command Sgt. Maj. Tracy McDow of the Regimental Fires Squadron, 278th Armored Cavalry Regiment prepare to take off in a Blackhawk helicopter from northern Iraq, June 10, 2010. Below, Colonel Holt, right, and McDow pause in front of the sign marking their headquarters in northern Iraq, July 12, 2010. Colonel Holt was garrison commander for Contingency Operating Sites Marez and Diamondback during deployment of his unit in support of Operation Iraqi Freedom. (Photos provided)

many of the principles and tactics from ATA's Beyond Zero (BZ) safety philosophy with his troops in Iraq.

“I didn't call it that [Beyond Zero] because folks wouldn't understand what that was, but I used the principles of BZ and discussed many of the same things that we talk about here at AEDC – the culture of caring, spending time in smaller groups with the troops and explaining to them it is not OK to get in one of these vehicles and move without your seat belt or PPE on,” he said. “I told them there's an accountability issue here as well. They understand the expectations, so if I observe them taking an unnecessary risk there will be some consequences.

“During a previous deployment [in Afghanistan], I had the unfortunate and painful experience of looking the loved ones of a fallen soldier in the eyes and explaining to them how sorry I am about their loss. I vowed to do everything possible to ensure my troops got the message of safety and that there was no room for noncompliance.”

Colonel Holt said that keeping troops safe is clearly a leadership issue, that the troops' first line leaders, all the way up to the squadron commander, are ultimately responsible for their safety.

“I made it a top priority to ensure that I and the leaders of the Fires Squadron would do whatever it took to ensure everybody is returned to their family safe and sound,” he said. Of course, we had some bumps and bruises and some scrapes here and there, but everybody came back intact. As a commander, I couldn't ask for any more.”

Colonel Holt said his unit came back early due to the troop drawdown. The mission was supposed to last through December, but they arrived home in early August.

The 25-year AEDC employee was quick to brag on ATA and how the company supports its deployed employees.

“You won't find a better company [that is] more supportive of their citizen soldiers,” he said. “I'm greatly indebted and greatly appreciative of how they handle and take care of folks who are being deployed.”

Colonel Holt said he knows he will always come back to a job after deployment, although it may not necessarily be the same job he left.

Colonel Holt, who has 28 years of service in the Army National Guard, was awarded two Bronze Stars for his service in Iraq and Afghanistan. He was also awarded the Combat Action Badge for his deployment amid hostile fire in Afghanistan in 2005-06.

He lives in Estill Springs with his wife of 22 years, Nancy, and their two children.



Commander's Fit Tip: give the gift of fitness!

By Col. Michael Panarisi
AEDC Commander

Having trouble finding just the right gift for that special someone? How about the "gift of fitness!"

Fitness gear and gadgets are always a welcome sight under the tree, and with the explosion of pro-level items in the consumer market, the possibilities are nearly endless.

This might just be the perfect time to spice up someone's gym bag, and maybe pick up a few goodies for yourself along the way. Here are some of my favorites.

"Wicking" apparel – Nobody has to suffer with cold, clingy, determination-robbing clothing, thanks to the proliferation of new fibers that literally pull perspiration off your skin and "wick" the moisture to the surface where it can do a better job of cooling and eliminating that clammy discomfort you've had to live with on the treadmill.

Most of these new garments use 100 percent synthetic materials, and the fabrics tend to have a "waffle pattern" that forms little air pockets to improve "breathability."

Now, I like a good old fashioned cot-

ton T-shirt for a walk or a light workout, but if I'm getting sweaty, I pull out the "good stuff."

Until you've tried it, you just can't believe how much more comfortable these garments are. That extra bit of comfort, and the extra cooling action, can help you get through the "hard days" and prevent that overheated feeling that sometimes gets between you and the last five minutes on the spin bike.

The secret is out on how this stuff works, so you can snag a decent shirt for under \$20, and I've seen some for under \$10.

The military uniform makers have already taken the plunge, so if you can stand the abuse from your colleagues at the gym, there is a "dry" version of the ABU undershirt that works very well. Not the most exciting color choice, but if you just want to "try before you buy" they're a real bargain at about \$7.

Trust me, they work.

Padded Cycle Shorts – If you don't ride a road bike or spin bike frequently, those seats can be a real drag. The solution? "Gel" shorts.

Those seats are hardly a "one size fits all" answer to pain management, and par-

ticularly on a spin bike, the workouts can add to the abuse of your backside. The padded shorts (some use a gel substance, others a compressed foam) distribute the loads nicely and can keep the grimace off your face late in the workout, or worse, the next day.

Most are Lycra-based for a snug fit around your thighs, and aren't exactly the most modest outerwear on the market, so you may prefer a longer than average shirt for walking around, but the comfort the gems provide are well worth it.

They are a little hard to find, so you'll probably have to get these online or at a bike/outdoor shop, and they can get a little pricey. But they last a very long time, so for under \$50, you'll find yourself actually looking forward to that scrawny little seat on "bike day."

Cycle Shoes – Most fitness aficionados don't race, so the thought of "clipping in" to a bike pedal is a little scary. But for spin bikes and stationary bikes, there's no better way to load your legs.

Problem is, your running shoes don't work well on a bike...too flexible and no place to screw in the "cleats" the special pedals need to secure your feet. A pair of cycle-specific shoes fills this gap.

Prices range from \$30 to \$300, so here's the sweet spot: go for "Mountain Bike" shoes.

These are much less expensive than the racy, lightweight road shoes, and best of all, you can walk around in them safely. You can even wear them for your weight training events, if you don't want to carry two pairs of shoes in your bag.

There's only one catch: you need to find out what style of cleat your spin bike or stationary bike uses. The vast majority use a style called "SPD," and these cleats sell for under \$20 a pair, but there are others out there and no two are interchangeable. I know it sounds a little complicated, but trust me, it's a totally different workout, and MUCH more effective when you "clip in." Those flimsy toe straps just don't cut it.

A decent pair of mountain bike shoes is only about \$50, and will last for years. Take the plunge, you won't regret it.

You just can't go wrong with items like these. They add value and comfort to the workout, and represent an investment/commitment to better health. So lay off the cheese and cracker sets and get your favorite gym rat some new gear. They will thank you every time they hit the gym!

AEDC's John Claybrook has his sights set on the stars

By Philip Lorenz III
Aerospace Testing Alliance

For John Claybrook, which is exactly what the seeing the movie, "Apollo Lexington, Ky., native was wanting. 13" was a pivotal moment when the now 24-year-old aerospace engineer knew a career in science lay ahead for him.

He is AEDC's most recent PALACE Acquire program participant and is currently helping with projects being conducted at Arnold's Space and Missiles Ground Test Complex.

The PALACE Acquire program was established as an avenue to replenish the civilian work force with entry-level college graduates for future civilian careers with the Air Force.

One of Claybrook's mentors, Jim Burns, AEDC's lead for space chambers testing, said his protégé is getting the opportunity for hands-on work,

which is exactly what the Lexington, Ky., native was wanting.

"Currently, I am directly involved with two sensor tests," Claybrook, who arrived at AEDC in July, said. "We have a sensor test that just started in 10V, and then another sensor test scheduled to start in January in 7V. I have been involved with the 7V test since coming onboard in the phases of planning. I'm also excited about future prospects involving electric propulsion testing and space environment testing."

Claybrook is still in the early stages of being mentored at AEDC and thoroughly enjoys the work environment.

The North Carolina State University graduate is learning how the test pro-



John Claybrook, AEDC's most recent PALACE Acquire program employee, peers into the antechamber of the 7V Space Chamber. The antechamber is used to test the sensor under simulated flight altitude conditions while then the sensor looks into the space background (looking into the regular 7V Chamber). (Photo by Rick Goodfriend)

cesses work at AEDC and earlier in the year helped with an experiment conducted in AEDC's Characterization of Combined Orbital Surface Effects

(CCOSE) chamber. The project involved subjecting material samples of Kapton, mylar, sapphire and fused quartz to similar conditions that those materials were exposed to in low earth orbit during an International Space Station (ISS) mission that ended in 2009.

"I did some comparative spectral analysis for the recent International Space Station experiment," he said, adding that he did not work directly with the chamber itself.

"We're putting him with the ATA guys; he's going to be part of writing the test plans, being [involved with] the tests and doing the analysis afterwards," Burns said. "AEDC had a lot of great minds back in the early days and that's what we want to do – pass it [the expertise and experience] on to the next generation. John is a great guy, eager to go out and do this stuff. We need more people like that on the government side because frankly, you cannot manage this kind of work if you don't understand it.

He's on the ball."

Claybrook said he had never heard of AEDC before attending a career fair shortly after graduating from college.

"The first bite I got from it [the career fair] was for a position out at Peterson AFB, Colo.," he recalled. "I was actually selected as an alternate for that one, but I didn't get it. It was an orbital analyst position. Then a couple of months later; I got a bite on this one.

"That is when I started looking into what Arnold AFB was all about and I am actually excited that I missed out on the orbital analyst [job] and I think this [position at AEDC] was a better fit for what I wanted to do."

Claybrook said he vividly recalls when he first drove up to the gate at AEDC to go through his work orientation.

"[I was thinking] 'Oh man, this is heaven...all the big toys these engineers get to play with,'" he said. "My overall first impression was there is a lot to do here."

During that first day, Claybrook learned about the full range of testing that is conducted at AEDC and said that in particular made working at the base exciting for him.

"Next fall I'll go to grad school and depending on the summer course they're offering me I'll have to switch back and forth and essentially then I'll only have three semesters to then complete a masters and then I come [here] back for a third year and then at that point that will propel me into a GS12 position," he said.

When he's not focusing on his job at AEDC or his academic studies for his graduate degree, Claybrook enjoys sports.

"I played baseball all of my childhood," he recalled. "If it involves a ball I'm down, [whether it's] baseball, basketball, ping pong, soccer, flag football or golf."

Claybrook said he is "blessed by God to have a good job, supportive family and be in a position to continue my education."

Have a safe and happy holiday season
Team AEDC!

'Hawk Eye' watches over reconnaissance aircraft



A lieutenant colonel from the 99th Expeditionary Reconnaissance Squadron waits in his vehicle before an EQ-4 Global Hawk's first launch Nov. 29, in Southwest Asia. The EQ-4 and other Global Hawk platforms use a chase vehicle to ensure the aircraft takes off successfully. (U.S. Air Force photo/Staff Sgt. Eric Harris)

By Staff Sgt. Kali L. Gradihar
U.S. Air Forces Central Combat Camera Team

SOUTHWEST ASIA (AFNS) – A sandy, tan combat boot weighs down on the accelerator in a pearly white Pontiac G8 GT speeding down the runway, bringing the sports sedan to a roaring 120 miles per hour quickly and easily with more than 360 horses under the hood. Workers on the flightline pay little mind to the vehicle as it races along the asphalt, where only aircraft typically set their wheels to land and take off.

Inside the sedan, a captain tightly grips the black leather steering wheel with one hand and a radio with the other, spouting directions to a pilot controlling the unmanned aircraft system, as it takes off for a day-long reconnaissance mission.

"Part of being the mobile driver, or what we call the Hawk Eye, is to be an extra set of eyes and ears for the pilot who is flying in (the launch and recovery element) and doesn't have visibility of the aircraft," said Capt. William Izzo, an RQ-4 Global Hawk pilot deployed to the 99th Expeditionary Reconnaissance Squadron in Southwest Asia. "We line up behind the aircraft and let the pilot inside the shelter know everything is clear, so when he departs, he isn't going to run into any traffic."

"Once the aircraft starts rolling, it's fairly slow at first, but builds up its speed. We're following behind it, ensuring it maintains center line ... using our radios to talk to the pilots inside the shelter," the captain said. "It almost feels like actually being in the aircraft. We're just behind it."

Deploying as a Global Hawk pilot differs from deploying as a manned-

aircraft pilot, in that most of a UAS pilot's combat missions are flown from a mission-control element (MCE) at the home station in California.

Working cohesively with the Hawk Eye driver, who has eyes on the aircraft as it takes off, the pilot in the LRE controls the UAS as it take lifts off from the runway. Once the UAS is airborne and stable, the pilot at the MCE at Beale Air Force Base, Calif., takes over the mission until the UAS is ready to land.

"We do have the pilots back at Beale (AFB) who fly the missions themselves, but the LRE here will do the take off and landings to be that extra safety factor, because we are within line of sight, whereas Beale (AFB) has to do everything via satellite," Captain Izzo said. "Once the aircraft is outside the local airspace, then we'll hand it off to the mission pilots back at Beale (AFB)."

"Obviously, the take offs and landings are critical phases of flight, so we are out here backing them up with the landing and take-off portions of the flight," he said.

Though there are many differences between unmanned and manned aircraft, UAS pilots and maintainers go through similar essential tasks to ensure the aircraft is ready to fly.

"We pretend like it's just a normal aircraft," Captain Izzo said. "We have an exterior inspection checklist. We go through all the checklist items and walk around the plane looking for any leaks, damages or something maybe maintenance may have missed."

Once it is determined the Global Hawk is ready for flight, a maintenance

crew powers on the aircraft and ensures there is a link between the UAS and the pilot in the LRE.

"It is almost similar to an actual aircraft ... (but) the pilot can't see anything until the aircraft is actually running and he has a valid link with the aircraft," Captain Izzo said. "So the engines must be running and powered up for the pilot to actually see what's going on."

In the air, the RQ-4 Global Hawk provides high-altitude intelligence, surveillance and reconnaissance capabilities to support joint combatant forces throughout the area of responsibility (AOR), also providing near-real-time coverage using imagery intelligence.

"We're up there flying at high altitudes, taking imagery requested by the user on the ground -- combatant commanders or intelligence communities," Captain Izzo said. "We work with the Army and Marines, as well as the Air Force. We have their controllers on the ground, who actually communicate with us (in) real time. They give us coordinates and we'll give them the imagery they requested."

The Global Hawk's ability to stay aloft for more than 24 hours, at altitudes above 50,000 feet, is one of many capabilities in the myriad aircraft assets that lend to the fight in the AOR.

"We're getting the intelligence to supply the fighters and the troops, whereas tankers are getting information from fighter aircraft so they can get their fuel," Captain Izzo said. "It's basically all intertwined and pretty complex on how things work."

Identifying friendly forces to become easier for AWACS

By Patty Welsh
66th Air Base Public Affairs

HANSCOM AFB, Mass. (AFNS) – Engineers with the Electronic Systems Center here have achieved the next step in bringing an improved Identification Friend or Foe, or IFF, system capability to E-3 Sentry Airborne Warning and Control System aircraft.

Currently, AWACS provides situational awareness of friendly, neutral and hostile activity, along with early warning of enemy actions during joint, allied and coalition operations.

"The next-generation IFF Mode 5 will allow for earlier detection of friendly targets and works to minimize fratricide," said Tricia Hill, a Next Generation IFF program manager. "Interrogators provide identification of cooperative platforms, and Mode 5 improves upon that for the E-3 fleet."

Mode 5 allows for dramatically improved detection of "maneuvering" targets at a maximum range, while improving detection of all targets at all ranges. It also increases the confidence in identification and data replies, Hill said.

Engineers recently held a combined development and operation test at Joint Base Lewis-McChord, Wash. Numerous test flights were completed with AWACS Block 30/35 aircraft that included jamming, interrogation and interoperability works with F-15 Eagles.

"The capabilities leveraged from the Next Gener-

ation Identification Friend or Foe system will dramatically increase our abilities to tell the good guys from the bad, and greatly reduce the chances of accidental fratricide, which will save lives in the future," said Maj. David Drass, the 552nd Air Control Wing mission systems requirements chief.

According to Hill, feedback thus far has proved promising.

"The preliminary results have all been positive," Hill said. "Everyone in the test community was satisfied. Although we don't yet have full data analysis completed we are working on moving to Milestone C, a production decision, this spring."

U.S. government and NATO engineers also were involved in the testing events to see firsthand the capabilities provided and how Mode 5 will transition to their AWACS platforms.

Another opportunity for evaluating the capability will come later this spring when the Navy performs a technical evaluation for all Mode 5 platforms that are ready to test.

"We'll be a key player in this evaluation, with AWACS providing an airborne interrogator," Hill said. "It will give us a chance to demonstrate interoperability between services."

"We've been successful because of the teamwork we have," Hill said. "Without support from the 552 ACW at Tinker (AFB, Okla.); the JTF/605 Test and Evaluation Squadron at Hurlburt Field, Fla.; the Oklahoma City Air Logistics Center; the FAA, (the Naval Air Weapons Station-China Lake, Calif.); the F-15s out of Nellis AFB, (Nev.); and our NGIFF IPT team here, we couldn't have gotten to this point."

**Arnold Golf Course
454-7076**

Merchandise Sale the entire month of December. Do your Christmas shopping at Arnold Golf Course with special discounts ranging from 5 to 30 percent off. Pick out your merchandise then come to the counter and roll a die to determine your discount. You must pay for the merchandise immediately after rolling. Roll a one for 5 percent off, two for 10 percent off, three for 15, four for 20, five for 25 or six for 30 percent off. No double discounts and Members First Plus discount does not apply in conjunction with this offer.

Mulligan's Coffee Bar and Grill now open. An expanded breakfast and lunch menu as well as a great selection of popular beverages are in store for customers with the reopening of Mulligan's Coffee Bar and Grill. Hours are 6:30 a.m. to 2 p.m. Monday - Friday and 7 a.m. to 2 p.m. on Saturday and Sunday. A new feature is the addition of the "We Proudly Brew" coffee bar featuring Starbucks beverages including hot and iced coffee, lattes, macchiatos, frappuccinos, espressos, hot chocolate and a variety of teas. A convenient "to go" parking area has been created right outside the Mulligan's side door. A punch card program offers \$2 off any purchase after getting five punches (given with any purchase). The newest addition to Mulligan's is the installation of Wi-Fi.

**Arnold Lakeside Center
454-3350**

Football Frenzy is winding down, so don't miss your chance to enter for prizes. While attending a Football Frenzy game event, all Members First Plus members are eligible to enter to win a trip to two regular games and Super Bowl. Each winner will receive two airline tickets, hotel accommodations, rental car and two game tickets. A bonus drawing will be held for 10 lucky winners to receive \$500 each. Only one entry per member per visit. Members and nonmembers are eligible to compete in local contests and giveaways. Food specials are offered with member and nonmember prices or order from the Hap's Pizza or Express menus. Regular dinner menu is available on Saturday night in the Four Seasons dining room from 5-9 p.m. January dates, times, specials and contests are listed below. The grand finale of Football Frenzy will be the Super Bowl on Feb. 6 with a Super Snack Buffet to include pizza, wings, chips and dip and more for \$6.99 members and \$7.99 nonmembers. Watch for more details or call 454-3350.

January dates, times, specials and contests:

- Jan. 6: 5-9 p.m.
ALC Burger and fries, \$5.50 member, \$6.50 nonmember
College Football Trivia
- Jan. 7: 3:30-10p.m.
Club sandwich and fries, \$5.50 member, \$6.50 nonmember
College Football Trivia
- Jan. 8: 11:30a.m.-10p.m.
25 cent wings for members only
College Football Trivia
- Jan. 16: 11:30a.m.-8p.m.
½ price pizzas for members only
First Half Yardage
- Jan. 23: 11:30a.m.-8p.m.
"Big Dawg" supersized chili dog and fries, \$4.95 member, \$5.95 nonmember
NFL Trivia

Second Friday Karaoke will be Jan. 14 from 6-10 p.m. All ages are welcome from 6-8 p.m., but 8-10 p.m. is reserved for adults only. Special for members only 7-9 p.m. - 25-cent wings and half-priced pizzas. Dining room special will be Lynchburg Ribeye for \$13.95 members and \$14.95 nonmembers served 4-9 p.m. Call ahead for dinner reservations at 454-3350.

Wednesday Lunch is 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. In addition to the Hap's Pizza menu, chef salad is available for \$4.50 which comes with ham, turkey, cheese and boiled eggs. Add grilled or fried chicken for \$2 more. Call to see what other specials are available each week. The ALC will be closed Dec. 22, 29 and Jan. 12.

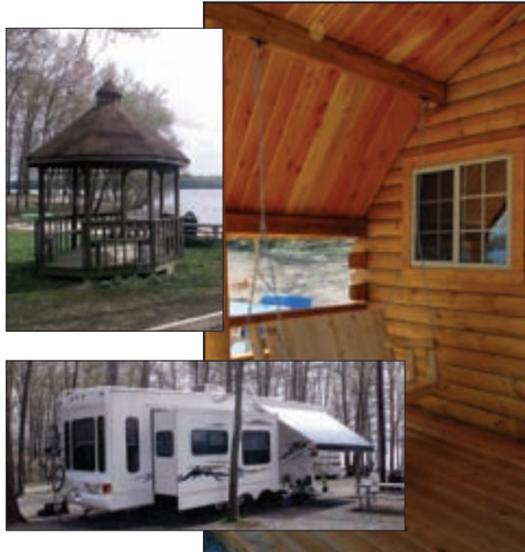
Second Annual Bridal Fair at ALC January 22



Arnold Lakeside Center will open to the public on Jan. 22 to host the Second Annual Bridal Fair. The event will be from 1-5 p.m. with multiple vendors expected. The ALC staff will be available for menu planning and event booking for eligible patrons. Those who book an event will receive a complimentary Air Force Catering Wedding Planner (while supplies last). A deli buffet will be served for \$6.95 for Members First Plus members, \$7.95 for nonmembers and \$3.95 for ages 12 and under. Bottled water and sodas will be available throughout the day for \$1.25 each. Call 454-3350 for more information.



FamCamp and Crockett Cove cut prices for winter months. Outdoor Rec is marking down prices by half for camping now through February 2011. Call 454-6084 for further information or to make reservations.



ALC to take Day Trip to Lynchburg Jan. 27

Arnold Lakeside Center is planning a day trip to Lynchburg on Jan. 27 to have lunch at Miss Bobo's and tour the Jack Daniel's Distillery. Cost is \$30 per person and sign-up deadline is Jan. 4. There must be five to take the trip and no more than 14. Meet at the ALC at 9:30 a.m., ready to depart at 9:45 a.m. and plan to return by 5 p.m. Call 454-3303 to sign up or for more information.

New Year's Eve Casino Night at ALC

Arnold Lakeside Center will ring in the new year with a Casino Night on New Year's Eve, Dec. 31, beginning at 6 p.m. for ages 18 and older.

A dinner buffet will be served from 6-9 p.m. and includes spring mix salad, stuffed chicken breast, baked cod, carved prime rib, steamed asparagus, broccoli, scalloped potatoes, mashed potatoes with gravy, desserts and more.

Gaming will be from 7-10 p.m. and includes craps, roulette, blackjack and wheel of fortune.

Participants are given play money to try their hand at these games to increase their dollars which will then be used at a prize auction beginning at 10:15 p.m.

As midnight nears, watch the New York City ball drop countdown on the big screen and raise a champagne toast.

Services Holiday Hours 2010

Fitness Center - 454-6440
Dec 20-22 Open 5a.m.-6p.m.
Dec 23 & 24 Open 8a.m.-4p.m.
(no classes)
Dec 25 Closed
Dec 27-30 Open 5a.m.-6p.m.
(no classes)
Dec 31 Open 10a.m.-4p.m.
(no classes)
Jan 1 Open 10a.m.-4p.m.
(no classes)

Family/Youth Programs - 454-3277
Dec 24 Open 10a.m.-4p.m.
Dec 25 Closed
Dec 31 Open 10a.m.-4p.m.
Jan 1 Open 10am-4pm

Arnold Lakeside Center - 454-3350
Dec 22-30 Closed
Jan 1-3 Closed

Outdoor Rec - 454-6084
Dec 24 Open
10a.m.-1:30p.m.
Dec 25 Closed
Dec 31 Closed
Jan 1 Open 10a.m.-4p.m.

Arnold Golf Course - 454-7076
Dec 24 8a.m.-3p.m.
(Pro Shop)
Dec 25 Closed
Jan 1 Closed



Learn Basic Car Care at ODR Class Jan. 22



Outdoor Rec will conduct How to Take Care of Your Car Class at 10 a.m. Jan. 22 for ages 15 and older. This class will teach the proper way to take care of the inner workings of your vehicle. Learn how to change the tires, oil and other fluids in your car. Also, get a lesson on how to utilize the Outdoor Rec Auto Bay. Once you learn these basics you can use the auto bay to take care of your own car. Meet at the main Outdoor Rec building and then head down to the auto bay for hands-on instruction. The class should last between an hour and a half to two hours depending on how many attend and the number of questions presented. There is no cost for the class, but deadline to sign up is Jan. 19. Call 454-6084 to sign up or for questions regarding this class or auto bay usage and fees.

Immediately following there will be a breakfast buffet served until 1 a.m. Reservations are required for the buffets by Dec. 21.

Cost is all-inclusive for both buffets, champagne and party favors at \$30.95 for members and \$35.95 for nonmembers.

Call 454-3350 for reservations or more information.



Horizon is a Services Division publication designed to inform our customers of events and specials in Services Division activities. All program dates, times and prices are subject to change. Services Division mailing address is at 100 Kindel Drive, Suite C321, Arnold AFB, Tenn. 37389-3321

Services information written and provided by Tanya Heggard

This Services supplement is published by *The Tullahoma News*, a private firm in no way connected with the U.S. Air Force, under exclusive written contract with the Air Force. This supplement is an authorized publication for members of the U.S. military services. Contents of this supplement are not necessarily the views of, or endorsed by, the U.S. Government, the Department of Defense or the Department of the Air Force.

Services Division is an exclusive area available to all AEDC personnel, active duty, retired military, National Guard, Reserve military and others as approved by the commander. Services activities include Wingo Inn (lodging), Arnold Lakeside Center, Outdoor Recreation (Marina, FamCamp, Crockett Cove), Golf Course, Family Member/Youth Programs and Fitness Center. Those mentioned above are eligible to use any Services activity during regular operating hours unless it is specified as a "members only" event. Membership remains a personal choice, however, only members are entitled to discounts and other benefits associated with membership.

Services Division Phone Numbers

Area code 931 DSN 340
 Services Chief – 454-7779
 Services Deputy – 454-5915
 Community Services Flight Chief – 454-4062
 Complex Manager – 454-3367
 Arnold Lakeside Center (ALC) – 454-3350
 Arnold Lakeside Center catering – 454-3350

Hap's Pizza – 454-5555
 Membership Information – 454-3367
 Information Tickets, Tours – 454-3303
 Fitness Center (FC) – 454-6440
 Outdoor Recreation (ODR) – 454-6084
 FamCamp – 454-4520 or 454-6084
 Marina – 454-6084 or 454-3838
 Recycling – 454-6068

Family Child Care – 454-3277
 Family Member/Youth Programs – 454-3277
 Human Resources – 454-5481
 Marketing & Sponsorship – 454-3128
 Barber Shop – 454-6987
 Wingo Inn – 454-3099
 Golf Course (GC) – 455-5870 or 454-7076
 Gossick Leadership Center – 454-4003

January 2011

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
<p>Bridal Fair at ALC January 22. Open to the public. 1–5 p.m.</p> <p>Sweetheart Luncheon Cruise coming Feb. 13. Call ODR 454-6084.</p>						<p>1</p> <p>FC Open 10a.m.–4p.m. (no classes) FamY Open 10a.m.–4p.m. ODR Open 10a.m.–4p.m. ALC Closed GC Closed</p>
<p>2</p>	<p>3</p> <p>FC Body Pump Boot Camp 6 a.m. FC Cycle Pump Class – Zesty cycling 11 a.m. FC Yoga 11 a.m.</p>	<p>4</p> <p>ALC AEDC Woman's Club luncheon meeting 9:30 a.m. FC Cycle Pump Class – Endurance Cycling 11 a.m. FC Karate 3 p.m. FC Zumba 4:15 p.m.</p>	<p>5</p> <p>FC Body Pump Boot Camp 6 a.m. ALC Lunch, 11 a.m. – 1 p.m., call ahead 454-5555 FC Pilates 11 a.m.</p>	<p>6</p> <p>FC Cycle Pump Class – Yellow shirt cycling 11 a.m. FC Karate 3 p.m. FC Zumba 4:15 p.m. ALC Dinner & Movie Night "Legend of the Guardians: The Owls of Ga'Hoole" PG dinner 5–8 p.m. movie 6 p.m. ALC Football Frenzy, 5–9 p.m., Special: Burger and fries \$5.50 member, \$6.50 non; Contest: College Football Trivia; members enter to win grand prizes</p>	<p>7</p> <p>FC Piloga 11 a.m. ALC Onion and Feta Crusted New York Strip, \$13.95 member, \$14.95 non member 4–9 p.m. ALC First Friday Jam Night, 6–10 p.m. FamY Movie Night, 5–7 p.m., age 9 and up, free popcorn, 454-3277 ALC Football Frenzy, 3:30–10 p.m., Special: Club Sandwich and fries \$5.50 member, \$6.50 non; Contest: College Football Trivia; members enter to win grand prizes</p>	<p>8</p> <p>ODR Paintball, 9:30 a.m., \$20 includes lunch, ages 10 and up, 454-6084 ALC Football Frenzy, 11:30 a.m. – 10 p.m., Special: 25 cent wings for members only; Contest: College Football Trivia; members enter to win grand prizes ALC Chicken Wellington, \$11.95 member, \$12.95 non member, 5–9 p.m.</p>
<p>9</p>	<p>10</p> <p>FC Body Pump Boot Camp 6 a.m. FC Cycle Pump Class – Zesty cycling 11 a.m. FC Yoga 11 a.m.</p>	<p>11</p> <p>FC Cycle Pump Class – Endurance Cycling 11 a.m. FC Karate 3 p.m. FC Zumba 4:15 p.m.</p>	<p>12</p> <p>FC Body Pump Boot Camp 6 a.m. ALC Closed for lunch FC Pilates 11 a.m.</p>	<p>13</p> <p>FC Deadline to sign up for Intramural Basketball, 454-6440 FC Cycle Pump Class – Yellow shirt cycling 11 a.m. FC Karate 3 p.m. FC Zumba 4:15 p.m. ALC Dinner & Movie Night "Takers" PG-13 dinner 5–8 p.m. movie 6 p.m.</p>	<p>14</p> <p>FC Piloga 11 a.m. ALC Prime Rib for Two, \$31.95 members, \$32.95 non members, 4–9 p.m. ALC Second Friday Karaoke, 6–8 p.m. family time, 8–10 p.m. adult time, 25 cent wings and ½ price pizzas for members only 7–9 p.m.</p>	<p>15</p> <p>ALC Never Ending Pasta Bowl, \$8.95 member, \$9.95 non member, 5–9 p.m.</p>
<p>16</p> <p>ALC Football Frenzy, 11:30 a.m. – 8 p.m., Special: half price pizzas for members only; Contest: First Half Yardage; members enter to win grand prizes</p>	<p>17</p> <p>FC Open 5 a.m. – 6 p.m. FC Body Pump Boot Camp 6 a.m. FC Cycle Pump Class – Zesty cycling 11 a.m. FC Yoga 11 a.m.</p>	<p>18</p> <p>FC Cycle Pump Class – Endurance Cycling 11 a.m. FC Karate 3 p.m. FC Zumba 4:15 p.m. FC Intramural Basketball begins 6 p.m.</p>	<p>19</p> <p>FC Body Pump Boot Camp 6 a.m. ALC Lunch, 11 a.m. – 1 p.m., call ahead 454-5555 FC Pilates 11 a.m.</p>	<p>20</p> <p>FC Cycle Pump Class – Yellow shirt cycling 11 a.m. FC Karate 3 p.m. FC Zumba 4:15 p.m. ALC Dinner & Movie Night "Secretariat" PG dinner 5–8 p.m. movie 6 p.m. FC Intramural Basketball 6 p.m.</p>	<p>21</p> <p>FC Piloga 11 a.m. ALC Seared Ahi Tuna with Strawberry Sauce, \$13.95 members, \$14.95 non members, 4–9 p.m.</p>	<p>22</p> <p>ODR How to Take Care of Your Car Class, 10 a.m., ages 15+, sign up by Jan. 19, 454-6084 ALC Bridal Fair, open to the public, 1–5 p.m., deli buffet \$6.95 members, \$7.95 non, \$3.95 age 12 and under ALC Lynchburg Ribeye, \$13.95 member, \$14.95 non member, 5–9 p.m.</p>
<p>23</p> <p>ALC Football Frenzy, 11:30 a.m. – 8 p.m., Special: Supersized Chili Dog and fries \$4.95 member, \$5.95 non; Contest: NFL Trivia; members enter to win grand prizes</p>	<p>24</p> <p>FC Body Pump Boot Camp 6 a.m. FC Cycle Pump Class – Zesty cycling 11 a.m. FC Yoga 11 a.m.</p>	<p>25</p> <p>FC Cycle Pump Class – Endurance Cycling 11 a.m. FC Karate 3 p.m. FC Zumba 4:15 p.m. FC Intramural Basketball 6 p.m.</p>	<p>26</p> <p>FC Body Pump Boot Camp 6 a.m. ALC Lunch, 11 a.m. – 1 p.m., call ahead 454-5555 FC Pilates 11 a.m. FC 3 Point Shoot Out 5:15 p.m.</p>	<p>27</p> <p>ALC Day Trip to Lynchburg, \$30, sign up by Jan. 4, 454-3350 FC Cycle Pump Class – Yellow shirt cycling 11 a.m. FC Karate 3 p.m. FC Zumba 4:15 p.m. FamY 4-H Meeting 4:30 p.m. ALC Dinner & Movie Night "You Again" PG dinner 5–8 p.m. movie 6 p.m. FC Intramural Basketball 6 p.m.</p>	<p>28</p> <p>FC Piloga 11 a.m. ALC Angel Chicken Pasta, \$9.95 member \$10.95 non member, 4–9 p.m. ALC Trivia Contest, 6 p.m., teams of 4</p>	<p>29</p> <p>ALC Bison Filet, \$18.95 member, \$19.95 non member, 5–9 p.m.</p>
<p>30</p>	<p>31</p> <p>FC Body Pump Boot Camp 6 a.m. FC Cycle Pump Class – Zesty cycling 11 a.m. FC Yoga 11 a.m.</p>					

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: limited menu Wednesdays, 11 a.m. – 1 p.m., call 454-5555 to place orders; Dinner: Arnold Express Menu or Hap's Pizza only Thursday 5–8 p.m., dinner or Arnold Express Menus and Hap's Pizza Friday 4–9 p.m. and Saturday 5–9 p.m.; Main Bar Thursday 5–8 p.m., Friday 3:30–10 p.m. and Saturday 5–10 p.m.; Social Hour Friday 4–6 p.m., Movie Night Thursday 6 p.m. **Closed Dec. 22–30 and Jan. 1–3**

Family Member/Youth Programs – Tuesday through Friday 10 a.m.–5 p.m., Saturday 12–5 p.m., First Friday Movie Night 5–7 p.m. **Open 10 a.m. – 4 p.m. Dec. 24; Closed Dec. 25; Open 10 a.m. – 4 p.m. Dec. 31 and Jan. 1**

Outdoor Rec – Main Office, Check In and Auto Shop Tuesday through Saturday 10 a.m. – 5 p.m., Marina by appointment only. **Open 10 a.m. – 1:30 p.m. Dec. 24; Closed Dec. 25 & 31; Open 10 a.m. – 4 p.m. Jan. 1**

Fitness Center – Monday–Friday 5 a.m.–9 p.m.; Saturday 8 a.m.–4 p.m.; Sunday 12–5 p.m. **Open 5 a.m. – 6 p.m. Dec. 20–22; Open 8 a.m. – 4 p.m. Dec. 23 & 24 (no classes); Closed Dec. 25; Open 5 a.m. – 6 p.m. Dec. 27–30 (no classes); Open 10 a.m. – 4 p.m. Dec. 31 & Jan. 1 (no classes).**

Arnold Golf Course – Pro Shop 8 a.m. – 5:30 p.m., Driving Range open 24 hours with prepurchased key card. Mulligan's Grill: 6:30 a.m. – 2 p.m. Monday through Friday, 7 a.m. – 2 p.m. Saturday and Sunday. **Closed Dec. 25 and Jan. 1. Pro Shop will close 3 p.m. Dec. 24.**

Wingo Inn – Monday through 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.–2p.m.; Thursday 8 a.m.–noon. **Closed Dec. 23–Jan. 9.**

BX/Commissary customer eligibility

AEDC government civilian and AEDC contractor employees have access to the following limited items at the base exchange (BX): consumable items including toiletries and over-the-counter pharmaceuticals, food items such as candy, chips, little meal items, hot dogs and soft drinks. Alcohol and cigarettes are not included as consumable items. However, only active duty and retired uniformed services personnel and their dependents are eligible to use the base commissary next to the BX. The commissary hours of operation: Tuesday, Wednesday and Friday 9 a.m.–5:30 p.m., Thursday 9 a.m.–6:30 p.m. and Saturday 8 a.m.–4:30 p.m. The BX hours of operation: Tuesday through Friday 9 a.m.–5:30 p.m., and Saturday 8 a.m.–4:30 p.m. For more information contact Janie Warren, BX manager, at (931) 454-7153 or Jeff Lillard, Commissary manager, at (931) 454-3545.

AAFES Dividends

Dividends generated from the Army and Air Force Exchange Service (AAFES) overall earnings are a major contributor to Services nonappropriated fund (NAF) construction and renovation projects as well as equipment purchases. Services would like to thank all AAFES customers for their support. Dividends received for November 2010 totaled \$8,433.25.



Please Recycle

Briefs from H1

Arnold Lakeside Center (ALC) 454-3350

Movie nights are every Thursday with movie start time of 6 p.m. and dinner available from the Express or Pizza menus from 5-8 p.m. The schedule for January is: **Jan. 6** – “Legend of the Guardians: The Owls of Ga’Hoole,” rated PG starring voices of Jim Sturgess and Abbie Carnish. Soren is a young owl enthralled by his father’s epic stories of the Guardians of Ga’Hoole, a mythic band of winged warriors who had fought a great battle to save all of owlkind from the evil Pure Ones. When a young owl is abducted by an evil Owl army, he must escape with newfound friends to seek out the legendary Guardians to stop the menace. **Jan. 13** – “Takers,” rated PG-13 starring Matt Dillon and Michael Ealy. A notorious group of criminals continue to baffle police by pulling off perfectly executed bank robberies. But when they attempt to pull off one last job with more money at stake than ever before, the crew may find their plans interrupted by a hardened detective who is determined to solve the case. **Jan. 20** – “Secretariat,” rated PG starring Diane Lane and John Malkovich. The true story of Secretariat, the legendary horse whose record-breaking Triple Crown win has never been equaled, and his owner Penny Chenery Tweedy, a suburban Denver housewife who breaks through the gender barrier in her single-minded determination to usher her horse to greatness. **Jan. 27** – “You Again,” rated PG starring Kristen Bell, Jamie Lee Curtis and Sigourney Weaver. Successful PR pro Marni heads home for her older brother’s wedding and discovers that he’s marrying her high school archnemesis, who’s conveniently forgotten their problematic past. Then the bride’s jet-setting aunt bursts in and Marni’s not-so-jet-setting mom comes face to face with her own high school rival. The claws come out and old wounds are opened in this crazy comedy that proves that not all rivalries are forever.

Friday night dining room specials available from 4-9 p.m. Jan. 7: Onion and feta crusted New York strip, \$13.95 members, \$14.95 nonmembers. First Friday Jam is 6-10 p.m. **Jan. 14:** Prime rib for two, \$31.95 for members, \$32.95 for nonmembers. Second Friday Karaoke 6-10 p.m. Member’s Special: 25-cent wings and half-priced pizzas 7-9 p.m. **Jan. 21:** Seared Ahi tuna with strawberry sauce, \$13.95 members, \$14.95 nonmembers. **Jan. 28:** Angel chicken pasta, \$9.95 members and \$10.95 for nonmembers. Last Friday Trivia 6 p.m. All specials and times are subject to change without notice. Please call ahead to ensure availability and openings.

Saturday availability and specials: Jan. 8: Chicken Wellington, \$11.95 members, \$12.95 nonmembers. **Jan. 15:** Never-ending pasta bowl, \$8.95 member, \$9.95 nonmember. **Jan. 22:** Lynchburg ribeye, \$13.95

members, \$14.95 nonmembers. **Jan. 29:** Bison filet, \$18.95 members, \$19.95 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.

The ALC will be closed Dec. 22-30 and Jan. 1-3.

Trivia Contest returns 6 p.m. Jan. 28. Teams can have up to four people. No cell phones are permitted during the event. Anyone using a phone while a question is underway will be disqualified. A tutorial will be given promptly at 6 p.m. to all participants prior to the start of the game. The game will begin immediately following the tutorial. Six rounds of questions will be administered consisting of three questions in each round. Each round is worth 10 points. The team with the most points at the end will have their choice of available prizes. Remaining teams will select prizes in order of finish in point standings. Ties will be broken by a trivia play-off.

Walt Disney Salute to Armed Forces now through Sep. 24, 2011. Discount tickets are available to active or retired military including activated members of National Guard and Reserves plus active or retired members of Coast Guard. A 4-day park hopper or 4-day base ticket with water park is \$133 and a 4-day park hopper with water park is \$160. Maximum of six tickets per person. Black-out dates are Dec. 27-31, Apr. 17-23, 2011 plus July 4, 2011 at Magic Kingdom park. Call Melissa, 454-3303, at Information, Tickets and Travel (ITT) for more information about these and other tickets.

The ALC is available for **special functions**. Call 454-3350 for details or to book a function.

Family Member/Youth Programs (FamY) 454-3277

Youth Movie Night will be Jan. 7 from 5-7 p.m. Ages 9 and up are invited to the Open Rec Center to watch a movie. There will be free popcorn, juice and water.

4-H is back Jan. 27 meeting from 4:30 to 5:30 p.m. The 4-H program offers many different opportunities such as the Demonstration Contest, Clover Bowl, Judging Teams, showing livestock, camps and many more opportunities. When you join 4-H you are joining the world’s largest youth organization. 4-H is also not just an American organization as there are 4-H clubs in over 80 countries around the world. Some of the big contests that 4-H really encourages are the speaking events and the poster contest. These events allow 4-Hers to express their creative sides and develop skills that will come in handy later on in life. 4-H also offers many different contests, camps, and honors programs that the members can become involved with. 4-H is always striving to teach young adults how to become better citizens and leaders through the many programs available. Call 454-3277 for more infor-

mation and to sign-up. Arnold Youth Programs 4-H Club is open to all AEDC affiliated children from 4th grade to 12th grade.

Fitness Center 454-6440

Intramural Basketball League set to begin Jan. 18. Games will be played on Tuesdays and Thursdays at 6, 7 and 8 p.m. Sign up as individuals or teams. Must be age 16 or older. Deadline to sign up is Jan. 13.

3 Point Shoot Out will be held Jan. 26 at 5:15 p.m. Participants will shoot two shots from each of five locations earning one point for each shot made. Choose to use the “Money Ball” anytime and it is worth two points. Top three point earners will win prizes.

Body Pump Boot Camp is now a regular class on Mondays and Wednesdays at 6 a.m. lasting an hour. It incorporates plyometrics, jump squats, burpees, mountain climbers, calisthenics, jumping jacks, sit ups, push-ups, and strength training utilizing dumbbells, medicine balls and your own body weight. It also addresses cardiovascular endurance and core conditioning in interval fashion. Forums will also use concepts such as team exercises – grab a partner for additional fun and exercise. This class is progressive as the weeks go on, and a progress sheet will be developed for all participants to track their improvement. This class is geared toward all levels of fitness so come out and have some fun. Classes are for eligible users only (Members First Plus members, active duty military, retired military and DoD civilians).

Fitness Center has assumed the roles and responsibilities of the Health and Wellness Center. The workout room in the A&E Building, Room C203 will now be referred to as the Fitness Center Annex. Programs and services designed to improve overall health as well as attaining a better sense of well-being will be offered. Among the services planned will be professional nutrition counseling, stress management, tobacco cessation, cancer, cardiovascular disease, diabetes and other preventative programs. These services and programs will be limited to installation active duty, DoD and NAF civilian workforce. Appointments must be made through the main Fitness Center by calling 454-6441.

Random Fitness Initiative continues. Twice a month the Fitness Center staff will roam the base during lunch and award people for showing self-initiative for working out on base at a location other than the Fitness Center. Those selected will receive a prize.

Complete Group Class Schedule is as follows: Cycle Pump classes are Monday, Tuesday and Thursday from 11 a.m. to noon. Each day has a different focus: Monday – Zesty cycling – an easy paced tempo ideal for beginners; Tuesday – Endurance cycling – a bit harder class with mountain climbs, in and out of saddle work and at times completed to a simulated tour ride; Thursday – Yellow shirt cycling – challeng-

ing and intense preparing for outdoor circuits with a combination of hill climbs, speed drills, in and out of saddle work and tempo rides. These are a super way to get a good cardio workout without excessive impact on your joints. Yoga is on Monday from 11 a.m. to noon and provides strength and flexibility enhancement. Body Pump Boot Camp is Monday and Wednesday from 6-7 a.m. Zumba class is Tuesday and Thursday from 4:15-5:15 p.m. Zumba is a fusion of music-dance themes featuring aerobic/fitness interval training with a combination of fast and slow rhythms that tone and sculpt the body. Pilates is a strength building and core class on Wednesdays from 11 a.m. to noon. Piloga is on Fridays from 11 a.m. to noon and also a strength building and core class. Cycling and Zumba classes are held in the Eagles Nest room upstairs. All other classes are held on the gym floor.

Karate class is held 3-5 p.m. Tuesdays and Thursdays on the main gym floor. This class is taught by volunteer Don Gardner of ATA. For more information on these classes contact Don at 454-3497.

The Fitness Center staff welcomes any **individual request for assistance** in developing a specialized fitness plan to help complete your fitness and health objectives. Call for assessments, instruction and fitness/workout plans.

Outdoor Rec (ODR) 454-6084

Paintball is set for Jan. 8. 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.

Sweetheart Luncheon Cruise coming Feb. 13. Outdoor Rec is heading to Chattanooga for the Southern Belle Riverboat Cruise to celebrate Valentine’s Day. Ages 16 and up are invited to bring their sweetheart for a cruise on the Tennessee River. Lunch will be baby Bella chicken with fettuccine and cracked peppered round of beef with baby red potatoes, mixed vegetable medley, yeast dinner rolls and a special dessert. Enjoy live entertainment while dining and taking in the scenery. Meet at ODR at 8:15 a.m. to prepare for the journey to Chattanooga and the two-hour luncheon cruise. Estimated time of return to ODR is 2:45 p.m. Cost is \$40 and reservations are required by Feb. 2. There must be a minimum of 20 to attend and max space is for 26. The fee is nonrefundable if cancelled after Feb. 2. Be sure to bring your camera and extra clothing depending on the weather.

Reservations for pavilion usage by authorized personnel must be made through the Outdoor Recreation Program. This includes the two pavilions at Gossick Leadership Center Beach, the Arnold Lakeside Beach and two in the Crockett Cove area. Rental fee is \$25 per day and a \$50 refundable cleaning deposit is required.

Reservations may be made up to 30 days in advance at Outdoor Rec (building 3055, previously known as Community Activities Center) or by calling 454-6084.

Reservation Policy: FamCamp and Crockett Cove reservations may be made 45 days in advance for active duty military and reserve components and 30 days in advance for all other eligible patrons. Marina reservations may be made 15 days in advance for active duty and reserve components and 10 days for all other eligible patrons. Reservations are made through Outdoor Rec, 454-6084.

The **Armed Forces Vacation Club (AFVC)** is a “Space Available” program that offers Department of Defense-affiliated personnel the opportunity to take affordable condominium vacations at resorts around the world for only \$329 per unit per week. All AEDC personnel are eligible to use this program. The AFVC makes this possible by utilizing “excess” inventory at condominium timeshare resorts. “Excess” inventory consists of condominium units that resort owners do not use, which generally means off-season or short-notice travel. If you enjoy off-season activities in popular locations without the hassle of high-season prices, crowds and lines or if you can travel on 10 days notice or less, the AFVC offers an incredible vacation value.

The current 7-day, Space-A, condo rental offer is a great value, but some people may like other vacation choices and support as well – those that can’t travel off-season or on short notice. To help meet this need, they also offer a separate travel club that provides 24-hour service for discounted airline, rental cars and hotel reservation services, as well as discounted cruise and tour packages. Book airline tickets, rental cars and hotel reservations and getting a 5 percent cash rebate after the trip.

To make a reservation, travelers need their AFVC Account Number (7033-xxxxx), the toll-free number (1-800-724-9988), a credit card number, an idea of when and where they want to go and the desire to get away, relax and have fun! If this is your first call, tell them you are a “first-time AFVC caller”. The vacation guide will take your name, address, telephone number, AFVC Installation Number (Arnold is #327) and assist with making your reservation. At the end of the call, even if you do not complete a reservation, the guide will assign you an account number for future use. Your Installation Number is very important.

Services is an exclusive area available to all AEDC personnel, active duty, retired military, National Guard, Reserve military and others as approved by the commander. Services activities include Wingo Inn (lodging), Arnold Lakeside Center, Outdoor Rec (Marina, FamCamp, Crockett Cove), Family Member/Youth Programs, Golf Course and Fitness Center.

Those mentioned above are eligible to use any Services activity during regular operating hours unless it is specified as a “members only” event. Membership is a personal choice. However, only members are entitled to discounts and other benefits associated with membership.

704th Services will receive a commission for your confirmed reservation to put back into programs offered for you locally.

The **Auto Shop** is a great place for do-it-yourself minor work and repairs. There is one stall available with a lift, air compressor, parts washer and a variety of tools. There is a fee of \$2 per hour. Staff can repair, mount, balance and rotate tires, by appointment. A repair using a plug is \$5 or a mushroom patch is \$10. The charge for mounting is \$3 per tire and for balancing is \$2 per tire. Tire rotation includes balancing for four tires and is \$16 for cars and vans and \$20 for trucks.

Wingo Inn 454-3051

Reservations for Wingo Inn can be made 120 days in advance. Room rates start at \$39 per night. Please call 454-3051 for reservations.

Gossick Leadership Center 454-4003

The **Gossick Leadership Center (GLC)** may be used for events such as meetings, conferences, luncheons, dinners, etc. and is booked through the Services Conference Center Manager (CCM) up to one year in advance. Requests must be made in writing by email to arnold.glc@arnold.af.mil. All event coordinators are required to sign an agreement. Official unit functions are authorized at no charge and are defined as bona fide official meetings or training held as part of the normal duty day. Unofficial and private functions may be held for authorized users at a fee. Community members may host events with the approval of the Services Director for a fee. Outside food and beverages are not allowed. First consideration must be given to Arnold Lakeside Center. In the event they cannot accommodate, an outside source may be utilized with CCM approval. For more information contact the CCM at 931-454-4003.

AEDC Woman’s Club 455-5676

The speaker for Jan. 4 will be Dr. Derek Frisby, History Professor and Civil War expert at Middle Tennessee State University (MTSU). Dr. Frisby will discuss women in politics beginning with the history of women’s suffrage.

The meeting will be Jan. 4 beginning at 9:30 a.m. Make reservations by calling 455-5676.

This is a private organization which is not part of the Department of Defense or any of its components and it has no governmental status.

The Services insert to the High Mach is designed to inform our customers of events and specials in Services activities. All program dates, times and prices are subject to change.