



HIGH MACH

Serving the World's Premier Flight Simulation Test Center



Vol. 59, No. 10

Arnold AFB, Tenn.

May 18, 2012

AEDC's Air Force Analysis Branch supports TF34 engine accelerated mission test

By Philip Lorenz III
Aerospace Testing Alliance

Support from AEDC's Air Force Analysis Branch recently helped bring a successful conclusion to a "challenging" Accelerated Mission Test on an upgraded TF34 engine, the power source for the A-10 Thunderbolt II, which is nicknamed "Warthog."

Josh Hartman, AEDC Air Force test project manager, said ATA analysis engineers also contributed to the project and emphasized that the recent engine testing employed "a more blended team" than has usually been the case for previous AMT entries.

"Between our Air Force Analysis Branch and ATA we always had two people in the control room at SL-1 during the test," he said. "Any time it was running they were performing data trending and logging. They've been monitoring critical engine and facility parameters."

Regarding the Air Force Analysis Branch, he said, "They've been responsible for weekly data packages, uploading the data, trending it, as well as checking data repeatability for performance testing



An upgraded version of the A-10 fighter's power plant, the TF34-GE-100, has undergone a six-month AMT in AEDC's SL-1 test cell to evaluate and validate new components prior to production approval for the fleet upgrade. This has also included intensive data analysis performed by AEDC Air Force Analysis Branch and ATA analysis engineers. (Photo by Rick Goodfriend)

and cell correlation – they've done QLRs (quick look reports). Overall they have really done a lot for the test. They've been doing a really good job."

The constant 24/5 monitoring of data from the TF34 AMT entry and offline data

See TF34, page 4

AEDC provides computational fluid dynamics expertise to Hill AFB engineers

By Patrick Ary
Aerospace Testing Alliance

At its core, AEDC strives to test and evaluate aircraft to help customers develop, qualify and improve system designs and performance. The center constantly researches and develops technology programs to develop advanced testing techniques and instrumentation to satisfy testing needs and keep pace with advancing aircraft, missile and space system requirements.

While business has focused on these aspects of the base's mission, when opportunities arise to bring in money from other avenues, it's considered. That recently happened when AEDC experts provided training to Hill Air Force Base engineers in the area of computational fluid dynamics (CFD).

Specifically, three engineers from Hill came to AEDC for training in how to use a CFD software application known as Kestrel. Kestrel is a CFD application that will give fixed-wing aerodynamic flow field like pressures and temperatures on a fixed airframe. It is sponsored by the High Performance Computing Modernization Office's (HPCMO) Computational Research and Engineering Acquisition Tool Environment (CREATE) Program.

"We are part of a small team that does analysis for modifications and sustainment of the A-10, T-38 and other Mature and Proven Aircraft (MAPA), such as the F-4 and F-5," said Tristan Young, the T-38/MAPA aeroperformance engineer at Hill AFB. "Some T-38 modeling has been done in the past through contractors, but we were limited by our manpower and capabilities. The work that is being done at AEDC will provide us with models that can be run as is or modified to suit future problems."

There are three steps in CFD analysis, according to Terrance Dubreus, AEDC project manager for the modeling and simulation capability. The first is building a computational grid, which serves as an input for the flow solver – in this case, Kestrel. Next, one has to determine the proper flow conditions and boundary conditions. The results will only be as good as the information provided to the flow solver.

See TRAINING, page 4

Go for launch in 16S



Students on a Minds in Motion tour from West Middle School in Tullahoma launch rockets they constructed out of straws, modeling clay and paper in wind tunnel 16S May 12. You can view more photos by scanning the QR code above. To find out more about AEDC's QR codes, see the story on page 3. (Photo by Jacqueline Cowan)



Visitors from Air Force Flight Test Center tour AEDC

By Philip Lorenz III
Aerospace Testing Alliance

Dr. Davy Belk, Air Force Flight Test Center's (AFFTC) executive director at Edwards AFB, and Col. Geoffrey Ellazar, Jr, AFFTC director of contracting, recently visited Arnold AFB to meet with AEDC Commander Col. Michael Brewer to learn more about the center and the ground testing complex's facilities.

Colonel Brewer, Britt Covington, AEDC's executive director, and John Sutton, AEDC's director of contracting, escorted the visitors on the tour and were met by subject matter experts for each stop.

The tour included the Propulsion Wind Tunnel's 16-foot transonic tunnel, the von Kärman Gas Dynamics Facility and plant area, Aeropropulsion Systems Test Facility's C-1 and C-2 Altitude Test Cells, the Rocket Development Test Cells J-6 and J-4, the Space Systems Development Chambers 7V and 10V, and the newest test capability, the Space Threat Assessment Testbed.

"Our visitors were here to learn more about AEDC and observe the Center's award fee determination process," Sutton said.



From left, Dr. Davy Belk, AFFTC's executive director at Edwards AFB, Chris Smith, AEDC's technical director of the Space and Missile Ground Test Complex, Britt Covington, AEDC executive director, and Col. Geoffrey Ellazar, Jr, AFFTC director of contracting, listen as Randy Quinn, Rocket Test capability manager, explains the role of the exhaustor for the Rocket Development Test Cell J-6 Facility. (Far right) John Sutton, AEDC's director of contracting, said their visitors were onsite to learn more about AEDC's award fee determination process. (Photo by Jacqueline Cowan)

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HIGH MACH

Arnold Engineering Development Center
An Air Force Materiel Command Test Center

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The *High Mach* office is located at 100 Kindel Drive, Suite B212, Arnold AFB, Tenn. 37389-2212. Editorial content is edited and prepared by AEDC support contractor ATA. Deadline for copy is Wednesday at close of business the week before publication.

This commercial enterprise newspaper is an allowable ATA contractor publication for personnel at AEDC.

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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.

**Core Values**

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

**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

Reflection and gratitude befit Memorial Day

By **Gen. Donald Hoffman**
AFMC Commander

WRIGHT-PATTERSON AIR FORCE BASE, Ohio – As I prepare to retire, I once again find myself reflecting on what it means to serve. Foremost in my thoughts are those who have risked their lives to preserve freedom and democracy. Even as we are hosting barbecues this weekend, or just enjoying extra time with our families, brave men and women are demonstrating their commitment to the United

States and our way of life as they engage in military operations far from home.

Over the years, more than one million American Soldiers, Sailors, Coast Guardsmen, Marines and Airmen have made the ultimate sacrifice in defense of our great nation. That number continues to grow. We owe these fallen warriors our gratitude and, though it can never truly be repaid, we should never forget that debt.

Take, for example, the Doolittle Raiders, who



Hoffman

commemorated their 70th anniversary last month. Their mission was risky even as planned, but un-

expected circumstances forced a difficult choice – cancel the raid or launch early and risk running out of fuel. They chose to launch. The Raiders dropped their bombs, but as their fuel gauges dropped, they knew they could not reach their designated airfields. Only 73 of the 80 Raiders returned home, some after being held prisoner for more than three years. Although the strike caused relatively little physical damage, the selfless mission of those

brave Airmen forced the Japanese to strategically re-position their forces and boosted the morale of America and its allies.

Indeed, our history is full of stories of ordinary people who displayed extraordinary heroism through their service. This Memorial Day, remember the ones those stories are about – the sons and daughters, fathers and mothers, brothers and sisters who bravely served and died protecting our freedoms.

CJCS sexual assault prevention response

By **Army Gen. Martin E. Dempsey**
Chairman of the Joint Chiefs of Staff

WASHINGTON (AFPS) – Commanders and Leaders of the Armed Forces:

Sexual assault crimes strike at the health, welfare and dignity of our service members and undermine the readiness of our Force. As military professionals we must fully understand the destructive nature of these acts, lead our focused efforts to prevent them, and promote positive command climates and environments that reinforce mutual respect, trust and confidence.

Sexual assault among Servicemembers is a problem we face together, one that can only be solved together. In doing so, we will Keep Faith with Our Military Family – they should expect nothing less, and Renew Our Commitment to the Profession of Arms – we should demand nothing less.

Today's Direction released today is written for

commanders and leaders to improve awareness of sexual assaults, operationalize our commitment, and facilitate dialogue and open communications across our formations.

The Joint Chiefs of Commandant of the Coast Guard, together with our DoD Sexual Assault Prevention and Response Program (SAPR) professionals, penned this guidance to synchronize those efforts. Together, we will operationalize the concerted efforts of the DOD SAPR Office and our Service programs with renewed commitment to eliminate sexual assault crimes within our ranks.

Commanders and leaders at every level must integrate the intent, lines of effort and tenets of this Strategic Direction as a part of our daily command routines and activities. We

See **ASSAULT**, page 5

Facts about the lemon law

The Tennessee Division of Consumer Affairs receives hundreds of complaints each year about defects in new cars that the dealers cannot seem to repair. If your new car is looking like a lemon, here are some things you should know.

Tennessee law requires motor vehicle manufacturers to honor express warranties on new motor vehicle for the period of the express warranty or for one year, whichever comes first. TCA § 55-24-102. If, during that time, 1) either the problem isn't fixed after three trips to the mechanic or the vehicle has been in the shop for more than 30 calendar days and 2) the vehicle is unreliable, unsafe, or worth below the average resale value of comparable motor vehicles, then the manufacturer must replace the vehicle with a comparable one or give a refund. TCA §§ 55-24-101, 103 & 105. If a refund is given, the refund will be the full amount less "a reasonable allowance for use" TCA § 55-24-103.

The law is unclear about whether you must report your problem during the

express warranty term or the one year term of protection. The Tennessee Division of Consumer Affairs has adopted the view that the problem essentially has to be reported within the first year of possession or within the term of the express warranty, whichever comes first.

Before requesting a replacement vehicle or a refund per the lemon law, you must notify the manufacturer of your intent to invoke the lemon law via certified mail. TCA § 55-24-105. The manufacturer then has an additional 10 days to fix the problem. The manufacturer may also invoke an informal dispute settlement procedure (like arbitration) that was outlined in your purchase agreement. If that happens, you can request the Tennessee Attorney General to review the procedure and opine as to whether it is a sufficient procedure under the law. TCA § 55-24-106. If you go through the procedure and still want to sue under the lemon law, you can. TCA § 55-24-110.

You may even get attorney fees. TCA § 55-24-108. Just remember that the

lemon law has a very short statute of limitations: either six months after the express warranty term expires or twelve months after you physically get the vehicle, whichever is later. TCA § 55-24-107. The statute of limitations is tolled during any informal dispute process. If you think you are heading down this road, consider consulting legal counsel early in the process to ensure you're not missing anything.

This article is intended for general informational purposes and does not constitute legal advice or the creation of an attorney-client relationship. If you are entitled to legal assistance (active duty, retiree, guardsmen or reservists either on Title 10 or Title 32 AGR orders, or their dependents), you can seek legal assistance at AEDC/JA. Please call (931) 454-7814 to schedule an appointment. Additional information on this, and other personal legal topics, can be found at <https://aflegalassistance.law.af.mil/law/law.html>.

(Information provided by the AEDC Legal Affairs office.)

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://lapro.arnold.af.mil/PORTALimages/Smoking area map. pdf](https://lapro.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.

Due to the nature, appearance, and safety concerns of electronic cigarettes (also known as "e-cigs"), they are considered to be in the same category of tobacco products whose use is governed by Air Force Instruction (AFI) 40-102, Tobacco Use in the Air Force. Therefore, all rules stated above for tobacco products apply to electronic cigarettes.

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

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

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

The weight loss 'secret'

By **Lt. Col. Anthony Bankes**
4th Aerospace Medicine Squadron

SEYMOUR JOHN-SON AIR FORCE BASE, N.C. (AFNS) – Two controversial topics that often dominate the headlines in our country are obesity and weight loss.

We are bombarded day and night with advertisements for weight loss pills, diets and workout contraptions.

According to the Centers for Disease Control, 34 percent of American adults 20 years and older are considered obese, with another 34 percent of adults considered overweight but not clinically obese. An adult is considered obese if they have a body mass index of 30 or higher.

As a health care professional, I am always concerned about the relationship between excess body weight and medical conditions associated with them such as cardiovascular disease, hypertension and Type 2 diabetes.

I am also concerned about the false and mis-

leading information we see in weight loss product and service advertising.

The use of deceptive or false information in weight loss advertising is rampant and dangerous. Many promise immediate success without the need to reduce caloric intake or increase physical activity. Numerous supplements are of unproven value or have been linked to serious health risks.

According to attorneygeneral.gov, the market for these products, or schemes in some cases, is staggering, with consumers spending more than \$30 billion a year on weight loss products and services. The world of weight-loss advertising is a fraudulent dream world where pounds "melt away," no diet or exercise is required, and "miracle" substances "seek and destroy" fat.

The Federal Trade Commission warns consumers about the extensive use of deceptive claims in weight-loss advertising.

A study conducted by FTC regulators found that 55 percent of advertisements made claims that were likely false or lacked proof.

We all want to believe that there is a fast and easy fix when it comes to our weight, but there is not. So what, if anything, are we to believe?

First, use your head when making decisions about how to approach weight loss.

Be reasonable and take emotions out of the equation, take weight loss schemes at face value and don't buy into unreasonable claims. Second,

keep these words from the CDC in mind: "It's natural for anyone trying to lose weight to want to lose it very quickly."

But evidence shows that people who lose weight gradually and steadily are more successful at keeping weight off. Healthy weight loss isn't just about a 'diet' ... It's about an ongoing lifestyle that includes long-term changes."

Bottom line, there is no such thing as an easy answer to losing weight. It takes work, time and an accurate knowledge of the calories in the food you eat and what it takes to burn them.

The traditional McDonald's Happy Meal, which consists of a hamburger, small fries and a 12 ounce soda, contains 590 calories, or 25 percent of an active adult male's daily caloric need. It would take the average 170 pound male 4.9 miles of running to burn this amount of calories.

To lose a pound of fat per week, you need to burn approximately 3,500 calories more than you consume. A regimen of 60-90 minutes of exercise four or more days a week along with a well-balanced diet helps achieve this goal.

The true secret to losing weight is having a smart, well-planned 500 calorie daily deficit that promotes healthy and consistent weight loss.

Don't approach weight-loss and exercise as sidebars to your life; make them a priority.

A healthy well-conditioned body allows us to better handle the physical and emotional challenges we encounter every day and looks great for the upcoming beach season.

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 Brewer
AEDC Commander

AEDC engineer's energy reduction plan to save test customer 6 percent

By Philip Lorenz III
Aerospace Testing Alliance

When Mike Mills, an ATA Propulsion Wind Tunnel Facility performance engineer, shared his plan for reducing power consumption in the facility's 16-foot transonic tunnel (16T), ATA General Manager Steven Pearson wanted to learn more.

Mills said communicating the idea, first to ATA's leadership and then to a test team at 16T was critical to getting buy-in from all those involved to give the plan a try.

"There's a whole host of folks who are involved with the tunnel operation, who you work with," he said. "You work with the project, test and plant engineers who operate the facility and prepare an agreement.

"You think through the safety issues [to] make sure there's no risk you're adding. We went through that whole process with the folks who operate the facility before we went out there and tried this."

Mills added, "The project engineers' staff estimated they would reduce the cost of this test by \$26,000. It was a win-win for everybody. AEDC will use less energy, which is one of our big goals and it's a big emphasis of the commander and the customer saved a little money."

Mills had conducted testing in PWT's 16T and 16-foot supersonic wind tunnel (16S) early in his career at AEDC, which began in 1978.

"My primary job over the years has been to conduct the [air] flow calibrations of 16T, 16S and 4T (4-foot transonic wind tunnel) and now that's actually taking in von Kármán Gas Dynamics Facility (VKF) Wind Tunnels A, B and C," he said. "When I say calibrate it's when we put probes in the test section.

"We measure the flow speed and the quality and uniformity and the angularity of the flow. I've calibrated 16T, 16S, 4T and Tunnels B and C in VKF, the only one I haven't is Tunnel A. And that's coming up soon."

Mills has also worked in other test facilities at AEDC over the years.

"I worked in the P plant for several years back in the late 1980s or early 1990s and learned a lot about how the facilities operate and all the equipment that drives the flow in the tunnels," he recalls. "I've always done the same thing, calibration and studies to improve the flow and feasibility studies to increase performance or capability."

His current project on 16T began in 2010, when the interest in reducing energy consumption at AEDC started gaining traction.

"Steve Pearson, ATA's general manager, had some money to do some studies of how we might reduce energy in 16T," Mills said. "We made a pitch to him for some ideas that we would like to try. We had already begun looking at energy reduction using funds provided by Lt. Col. Davis and Jack Walters in the Air Force TSTW (Propulsion Wind Tunnel Ground Test Complex) office. The funds provided by Steve

Pearson allowed us to expand this work and prove the ideas in the tunnel."

The idea that showed the most promise involved reducing the tunnel pressure ratio. A recent store separation test being conducted in 16T provided an opportunity to assess this approach, Mills said.

"We discussed this idea with the customer and proposed that he pay for a short run in the tunnel with the potential of reducing the cost of his test," he said. "Once the test customer agreed, Dave Anderson, ATA's Captive Trajectory System (CTS) project engineer, integrated the proposed runs into the day's test plan.

"He [the customer] did a few runs to demonstrate that reducing the pressure ratio in the tunnel would not affect the data."

Mills said his goal was to achieve energy reduction without sacrificing the quality of the test data.

"We were able to reduce the power for this test by 3 megawatts," Mills said. "We were run-

ning about 50 megawatts on the main motor drive, and were able to reduce that by about 6 percent."

A large compressor, approximately 30 feet in diameter, drives the airflow around the inside of 16T.

"The compressor provides a rise in pressure to push air around the circuit," he said. "There are losses around the circuit caused by friction and different elements in the circuit. We're talking about the overall pressure ratio, which is the ratio of the stagnation pressure as measured at the front and rear of the compressor in the wind tunnel."

He said this translates to the ratio of the highest and lowest pressures in the circuit or tunnel.

"We have some flexibility on the ratio we can run," he said. "We've been setting it conservatively over the years. The idea was to see if we could reduce some of that conservatism, eat into that margin a little bit, be-

See ENERGY, page 5

Gen. Mark Welsh nominated as next CSAF

WASHINGTON (AFNS) — Defense Secretary Leon E. Panetta announced May 10 that the president has nominated Gen. Mark A. Welsh III to be the next chief of staff of the Air Force, succeeding Gen. Norton Schwartz, who has served in the position since August 2008.

"I'm tremendously honored and deeply humbled by the nomination to serve as the next Air Force chief of staff," said Welsh, who is currently serving as the U.S. Air Forces in Europe commander. "If confirmed, I'll do everything in my power to live up to the example set by Gen. Norty Schwartz and the other great officers who have led our service so well throughout its remarkable history.

"It's always a great day to be an Airman ... but this one is extra special for me. I came into the Air Force because I was in love with the airplanes; I stayed in because I fell in love with the people," he said. "Being allowed to continue to serve them, our joint partners, and the nation in this role would be the privilege of a lifetime."

Welsh entered the Air Force in June 1976 as a graduate of the U.S. Air Force Academy. He has been assigned to numerous operational, command and staff positions. Prior to his current position, he was the associate director of the Central Intelligence Agency for Military Affairs at the Central Intelligence Agency in Washington, D.C.

During a Pentagon press briefing May 10, Panetta recalled his close working relationship with Welsh when the secretary served as the CIA director.

"Over the course of our time working together, I developed a deep appreciation for his wisdom and his counsel," Panetta said. "A former Air Force Academy commandant, I believe that he has the right leadership qualities and distinguished background to follow his extraordinary predecessor, General Schwartz."

Chairman of the Joint Chiefs of Staff Gen. Martin Dempsey echoed Panetta's praise for the nominee.

"I am pleased to join Secretary Panetta in applauding the nomination of Mark Welsh to be the twentieth chief of staff of our United States Air Force," Dempsey said. "I know about his courage in combat, his acumen in acquisition and his passion for developing future leaders. Mark is ready to join the ranks of renowned Airmen like Carl Spaatz, Curtis Lemay, David Jones and also his immediate predecessor, Norty Schwartz."

Secretary of the Air Force Michael Donley described Welsh as an outstanding Airman and leader.

"General Welsh's proven performance, deep experience and leadership ability make him the ideal candidate to be the next chief of staff of the Air Force," Donley said. "Pending his confirmation, I look forward to working with



Welsh

Mark to continue building on the outstanding accomplishments achieved by Gen. Norty Schwartz in support of our Air Force."

Schwartz also praised the president's selection of Welsh to succeed him, saying he is the right leader at the right time for the Air Force.

"We are at an inflection point for our Air Force as we shape a smaller but superb Air Force in

an increasingly complex geopolitical and security environment," Schwartz said. "Mark Welsh is a natural leader with an impressive record of accomplishments and a wide range of experience. He and his lifelong partner Betty are perfectly suited to lead our Airmen in the years ahead."

See WELSH, page 4

Blood drive taking place June 11-15

The American Red Cross will be holding a blood drive at AEDC June 11-15. The blood mobile will be at several locations, so please mark your calendars to donate. Employees may donate at any of the five locations during work hours with approval of the supervisor.

Donation hours each day are 10:30 a.m.-2:30 p.m. All presenting donors will receive a rock-n-roll T-shirt and be eligible to win a Gibson guitar.

DATE	LOCATION
June 11	ETF
June 12	PWT
June 13	A&E
June 14	VKF
June 15	Main Cafeteria

Before donating blood please follow these helpful hints:

- Get a good night sleep.
- Eat a meal (not just a snack) to make sure you are not donating on an empty stomach. This will help ensure that you do not get light headed or pass out.
- Drink plenty of water. Drinking 20-30 minutes prior to your donation helps ensure you have a pleasant experience.

If you have any further questions, please call Leslie Myers BSN, RN at the Dispensary, extension 5387 or 5385.

To be eligible to donate you must be healthy, at least 17 years old, weigh at least 110 pounds, and not have given whole blood in the past 56 days or a double red cell in the last 112 days. There is no upper age limit. You may not give blood if you have received any notification asking you not to donate. Please bring ID or your donor card.

ATA receives award fee rating

The Air Force announced an award fee rating of 92 for AEDC's operating contractor, Aerospace Testing Alliance, for the period October 1, 2011 through March 31, 2012. The award fee determining official, Randall Culpepper, gave the contractor high marks with excellent ratings in each of the six functional areas evaluated.

"Once again our work force did a great job for the Air Force and the warfighter," ATA General Manager Steve Pearson said.

Pearson said the company will continue to share the award fee money with employees in accordance with its policies.

ATA was awarded the center support and testing contract on June 30, 2003. The operating contract is for up to 12 years and worth potentially \$2.7 billion. ATA currently employs more than 2,118 people from 15 Tennessee counties and four states.

AEDC program looking for innovative IDEAs

By Patrick Ary
Aerospace Testing Alliance

AEDC is looking for IDEAs that could benefit the center, in addition to putting cash in an innovator's pocket.

The Innovative Development through Employee Awareness (IDEA) Program is an incentive program that promotes process improvement and resource savings through ideas submitted by employees. Military, civilian and contract employees are all eligible to participate.

Employee participation in the IDEA Program saves the Air Force a calculable margin of money and

resources, creating provisions for other projects and the costs they ensue. And as an added bonus to government employees, awards ranging from \$200 to \$10,000 are possible depending on how much money an idea can save. ATA employees who submit ideas that are proven and implemented can be eligible for awards through ATA.

According to AEDC IDEA Program Manager Terry Tucker, participation in the program has declined. In this time of tight budgets, however, employees are being encouraged to submit their ideas for generating savings.

"The budget is tight, and today we need to be looking for ways to

save money to improve the way we do business," Tucker said. "And I think there are lots of people who work out here who have great ideas."

For an idea to be eligible, it must be the submitter's unique thought or new application of an old principle. It also must benefit the Air Force. The submitter has to provide the present method, a proposed method and the expected benefits in changing methods.

Tucker encouraged people to submit their idea, no matter how trivial they may think it is.

"Just submit it and see where it goes," she said. "You never know."

Get more High Mach content with your smartphone's camera

By Raquel March
Aerospace Testing Alliance

High Mach will begin utilizing Quick Response (QR) code technology to enhance communication with readers.

With the increase of smartphone users, it is now easier than ever to quickly communicate a product or information

using QR code in print media or on any item that can accept print.

QR code is a form of matrix barcode or two-dimensional code which can store 4,000 characters.

The code can store a website's URL, plain text, phone numbers, email addresses, contact information or any other

alphanumeric data.

Smartphones with a barcode scanner application can scan a QR code and within seconds be connected to a website or needed information.

Scan the QR code in this story or on page 1 to access photos of AEDC's recent Minds in Motion tour for West Middle School's eighth grade students.



TRAINING from page 1

Then Kestrel is used to solve the aerodynamic equations – i.e. the continuity, Navier Stokes and energy equation which ultimately determine the change in pressure, temperature, Mach number, etc.

“It will solve the equations on all the data points that make up the computational grid,” Dubreus said. “That’s why we have to use supercomputers to do this type of application, because it’s very computationally intensive – usually millions of data points.”

Hill AFB engineers have had a relationship with AEDC for several years in the form of Flight Systems Branch analysis lead Dr. Don Malloy, who at the time worked for Aerospace Testing Alliance (ATA), AEDC’s

operating contractor. Dubreus said the relationship developed initially when Hill AFB was investigating an increased drag on T-38 trainers caused by new inlets they bought from NASA.

“They were impressed with Don’s support, and keeping that two-way communication once he switched to a government employee in the [Air Force] Analysis Branch; he also made them aware of our CFD capability, which is unique within the Air Force,” Dubreus said.

Hill AFB had a CFD expert who was a contractor, but when he retired government engineers wanted to get some experience of their own.

After talking with Malloy about their desire to get a handle on the basics

of CFD, they decided to come to AEDC and learn the ropes. ATA’s Bill Sickles and Jim Masters provided the training.

Prior to the Hill engineers’ arrival, AEDC submitted a request to the HPCMO’s CREATE Program Office for a concurrent Kestrel demonstration workshop.

“The developers of Kestrel came to AEDC and went through the different capabilities of the flow solver,” Dubreus said. “They provided a day for the training, and the next day the Hill engineers met up with Bill and Jim and were able to ask more detailed questions.”

The training Hill engineers received will be used mostly for aircraft sustainment work.

“For example, occasionally a repair will require a doubler or external patch that changes the outer geometry of the aircraft,” Young said. “The goal is to be able to quickly modify and run a model to investigate what affect the repair has on aerodynamics.”

Young said the training they received at AEDC was excellent, and if they ever need more training they would like to come back.

“Most software training consists of working through tutorials that are ‘canned’ and work out perfectly with little effort,” Young said. “With this training we sat in a room with three experts and worked together to create a surface mesh on the actual T-38 geometry that we would be working on.

We went through the same basic processes many times on different parts of the aircraft until we had created a complete surface mesh.

“Since CAD models tend to have defects, each location provided a different challenge to overcome. Each day we had time to go work on our own projects with support from the AEDC engineers. That way we could use what we had learned.”

Other Air Force bases do work with CFD, but AEDC’s is more diverse because of the different mission areas served.

“We have three different mission areas,” Dubreus said. “We have flight, or the wind tunnels. We have space. We have propulsion. So we have tools capable of simulating the performance

with regard to all three of those mission areas.”

Reimbursable Budget Authority (RBA) work has become more of an area of interest at AEDC in this time of tightening budgets, Dubreus said. Under RBA, AEDC can do work for other entities for which the base is reimbursed. In this case, about \$50,000 went into AEDC’s budget from Hill AFB.

“This was a first for us, to provide training for another organization,” Dubreus said. “The work that we’ve done in the past was primarily focused on analysis, so this was the first of its kind where we were actually asked to provide training for engineers at another organization. That’s exploring new areas of providing support.”

TF34 from page 1

analysis on the project serves a two-fold function, according to Joshua Osborne, who, along with Reggie Floyd, conducts aeropropulsion analysis for the Air Force Analysis Branch (TSTA).

The main benefit of this 24/5 monitoring approach is that it allowed Osborne and Floyd to focus on the in-depth “offline” data analysis.

Osborne said they have historical data from the engine that served as a baseline to compare the recently acquired data with to quantify any observed changes.

“From the historical TF34 data, you can look at

[and compare] fuel flows and temperatures, which allows you to correlate how much thrust you get,” he said. “Changes in the engine’s performance are expected, but we specifically wanted to see how much the engine deteriorated over the test and how performance drops off, how much more fuel it is using and pressure changes. We’re looking at all the data. The information that we’re giving them [the customer] is engine performance parameters [including] pressures and temperatures around the compressor and turbines, engine speeds, vibrations, and fuel flow to name a few.”

Osborne said Derrick Daniel, Ed Wantland and other ATA analysis engineers have been extremely helpful in his learning of how to analyze engine test data.

“The people who have been helping out with the continual monitoring of the data are engineers from flight systems and space and missiles from our branch (TSTA), TSTB personnel to include project managers, a lot of second lieutenants, and Mike Dent even stood in for a day,” Osborne said.

“There’ve been multiple instances where they’ve caught some issues with our data instrumentation, for instance a flow meter not

reading correctly,” Osborne said. “Catching things like that allows us to go in there, schedule to get it fixed so they’re not constantly recording a bunch of bad data and more importantly ensure the safety of the engine.”

Osborne said the team effort paid off in terms of both efficiency and sharing valuable information.

Osborne acknowledged the AMT entry has provided him with some challenges.

“This was [my] first time and it’s been a learning curve – just kind of thrown in there without any previous engine testing background,” he said. “That was a difficult thing to start

off with, but being in that situation you had to learn a lot [and] quickly, which ultimately I believe made me gain more knowledge for this test and makes me more valuable for future tests to come. I’ve also learned a lot because of Derrick Daniel, Ed Wantland and others.”

Hartman said the TF34 customer was pleased with the test result and for good reasons.

“If there’s one thing that AEDC doesn’t compromise on it’s the quality of their data,” he said.

Gus Kamphaus, Aeronautical Systems Center (ASC) at Wright-Patterson AFB, Ohio, said there were many benefits of bringing

the test to AEDC, including keeping within schedule and budgetary constraints.

“We also improved control of many AMT data quality drivers as a direct result of the TSTA’s analysis effort,” said Kamphaus, who is ASC’s lead engineer for the TF34 Boltless Rotor Upgrade (BRU) Component Improvement Program (CIP). “For example, we were able to reduce the number of water washes during the AMT to mimic fleet maintenance practices.

“This enabled us to operate the BRU turbine blades at hotter cooling flow temperatures to simulate fleet operation of older engines.”

WELSH from page 3

Schwartz will complete his four-year tenure as Air Force chief of staff in August.

Welsh previously served in the Pentagon as chief of

the Defense and Space Operations Division on the Joint Staff, and as director of Global Power Programs in the Office of the Assistant Secretary of the Air

Force for Acquisition.

He is a command pilot with more than 3,400 flying hours, principally in the F-16 Fighting Falcon and the A-10 Thunderbolt II. Welsh has re-

ceived numerous awards for his military service including the Defense Distinguished Service Medal, the Distinguished Service Medal with oak leaf cluster, the Defense

Superior Service Medal with oak leaf cluster, the Legion of Merit with oak leaf cluster and the Distinguished Flying Cross with oak leaf cluster.

The president has for-

warded Welsh’s nomination to the Senate for consideration and confirmation.

(Courtesy of the Secretary of the Air Force Public Affairs)

New guide helps Airmen, families navigate social media

By Tech. Sgt. Karen Tomasik
Air Force Public Affairs Agency

JOINT BASE SAN ANTONIO – LACKLAND, Texas (AFNS) – Airmen and families have a new resource at their fingertips with the recent release of an updated and revised social media guide by the Air Force Public Affairs Agency (AFPAA) in San Antonio, Texas.

The guide features sections geared toward all Total Force members and their families as well as Air Force leaders. It highlights topics including using social media effectively, security awareness, social media platforms, public affairs programs and social media policy among others.

“Our social media team has made great strides

in updating this guide,” said Larry Clavette, Air Force Public Affairs Agency director. “Airmen and families will see a lot of information they can apply to their social networking practices, whether they’ve been using social media for years or are just coming onboard with the technology.”

While information on social media has been around for several years, the types of platforms people use evolve and new ones start up nearly every day. No matter which social media platform you use, and whether you use social media personally or professionally, many basic principles apply.

Operations security

ranks first and foremost in the minds of many military members, but the casual nature of social media can easily lead to inadvertent sharing of sensitive personal information via personal profiles and accounts.

Everyone should make sure they share personal information only with people they trust and understand that no matter how secure they set up their own accounts friends can unintentionally share details about their lives with people who may have malicious intentions.

Though the desire to protect personal information is one reason people may not join social media platforms, unfamiliarity with the platforms is another commonly cited rea-

son for staying out of the social media arena.

“By now, many people are already using social media so this guide doesn’t focus on how to set up new personal accounts,” said Capt. Amber Millerchip, the deputy director of public communications at AFPAA. “Instead, we focused on how to communicate more effectively on some of the most commonly used social media platforms. We hope everyone finds something in the guide they can use in their personal or professional communications on these platforms.”

For most Airmen and family members, the first half of the guide, along with the social media policy references, frequently asked questions and glos-

sary at the end, cover the basics they need to successfully navigate social networks. Unit leaders and public affairs Airmen will benefit from all those sections plus the sections addressing social media and a public affairs program and social media and AFPAA.

“Social media is another tool in a public affairs toolkit,” said Tanya Schusler, the chief of social media at AFPAA. “The new guide will help any Air Force public affairs office start or improve their social media program. The two most important things to remember are to have a communication plan and to engage with followers. Social media is supposed to be fun but that doesn’t mean it shouldn’t be a deliberate process.”

As units share their Airmen’s stories locally, they might also consider sending stories, photographs and videos with wider Air Force appeal to AFPAA so they can be featured on the main official United States Air Force social media properties. The section in the guide discussing social media and AFPAA outlines how to submit those prod-

ucts and also touches on a growing area in Air Force emerging technology use – the development of mobile applications.

“We understand how mobile applications can help Airmen and families in the Air Force, and we encourage folks to leverage technology in accomplishing their jobs more efficiently,” Clavette said.

“What we ask everyone to do is be smart about developing applications for official use. There are many things to consider from impact on mission completion and potential risks to a variety of costs in development and maintenance of an app. AFPAA is the focal point for mobile applications development, so we need folks to contact us for guidance before jumping into this area.”

Airmen can download a copy of the guide from the social media tab at www.af.mil, the official website of the U.S. Air Force or by selecting the link. Questions and comments about the guide can be directed to the AFPAA Social Media Division via the contact information on the guide’s back cover.

ENERGY from page 3

cause the emphasis is on energy reduction.”

The escalating cost of electricity prompted Mills to consider the current effort.

He said the recent project to reduce energy demands at 16T is addressing challenges that he and other engineers have been dealing with for years, including measuring airflow pressure losses in the wind tunnel.

“This has been done in the past, this isn’t a new idea,” Mills said. “16T’s energy has always been an issue, from day one. There are lots of reports – lots of studies have been done over the last 56 years. But we’d like to look at it in more detail, since there’s a renewed interest in energy reduction.”

Mills said more can be done to save energy, which is worthwhile, but he also cautioned against overstating the expectations.

“We need to focus on other things we can do in the circuit of 16T,” he said. “Those solutions may apply to other tunnels, to reduce those losses, because the power it takes to drive that compressor is directly affected by the rise in pressure provided by the compressor.”

“This rise in pressure required is simply the inverse of the losses around the circuit and the compressor is making up the losses. If we can reduce the losses, we can reduce the power. If the rise required by the compressor is lowered, then we can reduce the energy consumption.”

Mills said the recent project was simple to implement and test.

“The angle of the stator or stationary compressor blades can be changed at the computer console in the control room,” he said.

Mills said making the pressure ratio change while

continuing the test and comparing the data under the changed conditions took approximately 20 minutes.

Pete Macaluso was AE-DC’s Air Force primary project manager on the test used for the recent energy reduction effort.

“Mike [Mills] contacted me with his proposal for investigation,” Macaluso said. “He and I discussed the data gathering options with the customer and the expected cost and potential future cost savings. Mike, Craig and I then participated in the data gathering during the test. Finally, Mike and Craig verified the power reduction savings, and I estimated the cost savings impact to the customer’s test.”

“Based on my estimates from the point in time of the investigation to the end of the test, my customer realized a cost savings of approximately \$31,000.

The technique used to reduce power costs is now implemented for all future tests that use the Captive Trajectory System (CTS).”

Macaluso said it is important to put the benefits of the method into perspective.

“The individual cost savings to each future test is dependent on the specific test conditions and customer matrix,” he said.

Mills believes the methods for saving energy and reducing test costs, although these provide an ongoing challenge, are clearly worthwhile, especially to the taxpayer.

“The whole emphasis on reducing the energy burden on the infrastructure at AEDC, on TVA and the country may involve lots of small steps, but they do add up and that’s what we’re doing,” Mills said.

ATA restructuring transition goes smoothly

By Patrick Ary
Aerospace Testing Alliance

When the restructured ATA organization became effective April 23, most people affected knew it was coming.

Since the changes had been well-publicized for weeks prior to the formal implementation date, the transition occurred with very little fanfare or disruption. That’s what the team in charge of making the transition was hoping for.

In early March, work began on implementing a reorganization of ATA’s structure. The change was made because staffing levels at AEDC have been reduced more than 20 percent in the last three years. Due to the expectation of continued restrained budgets, the decision was made to restructure to accommodate a smaller workforce.

The idea of restructuring the organization had been under consideration for some time, according to Transition Manager David Eldridge.

“The previous organizational structure had been in place since the origination of ATA,” Eldridge said. “We’re in the ninth year of our contract. The original structure was developed to accommodate a higher level of staffing than where we are today, so once those reductions started three or four years ago, consideration began for organizational restructuring.”

The objectives of the restructuring were to

streamline ATA to more appropriately match current and future forecasted staffing levels by reducing the number of departments and branches; to improve effectiveness within the organization by consolidating related functions; and to improve the alignment of the organization with the current AEDC work breakdown structure.

No staff reductions occurred as a result of the restructuring, and many employees were unaffected. The majority of those who were affected saw only a change in their department or branch assignment.

The changes eliminated two departments and five branches, realigning them with existing departments. AEDC’s remote facilities, the Hypervelocity Wind Tunnel 9 in White Oak, Md., and the National Full-Scale Aerodynamics Complex at Moffett Field, Calif., were not affected by the changes.

Several departments were renamed or assigned new organization codes, which required modification of a number of administrative support systems. Not the least important was modifying the time reporting and approval system to be ready for the changes.

The Restructuring Transition Team, led by ATA Finance/Program Control Manager Joyce King, was formed in order to make sure new organization codes were entered in the various systems, employees were properly assigned to

their new organizations and the timecard system was ready for labor hours to be recorded and approved. The team met weekly during the month and a half leading up to the April 23 transition date to prioritize and track tasks and brainstorm for potential issues.

The team consisted of representatives who dealt with several different systems used by base employees, such as the PeopleSoft Finance, PeopleSoft Human Resources, Oracle Business Intelligence, CMMS, Matrix, ATA Portal, Sharepoint and Microsoft Outlook.

“When we got the data on who was moving to what department, we set up a timeline and started meeting weekly to determine impacts and what we had to do first,” King said. “For instance, we had to get all these organization codes into PeopleSoft HR first, because you can’t hook people to them if they’re not already there.”

Approver groups for timecards were the biggest hurdle, according to King. The ATA craft supervisors and managers often have employees temporarily transferred to their department, but they must be able to approve their timecards while they are working for them, making approver groups the most complex issue. When everything was moved over April 23, King said they only had a handful of supervisors call with approver issues, and those were promptly corrected.

Another major area the team looked at was role-based security. Because some employee roles changed in the reorganization, access had to be changed for them in several AEDC systems.

King said everyone on the transition team realized the importance of this effort and was committed to getting the work done and making sure there were no problems the day everything switched over, even though ATA management made sure team members knew April 23 was not a firm date for the transition if it meant things would be rushed.

“We weren’t too pressured, because we knew if we needed two more weeks they would give it to us,” King said. “But it still was a lot of work for this group of people on top of normal responsibilities, and the successful transition was due to their dedication to making it happen.”

And while there are still some small issues that everyone expects to come up as time goes by, Eldridge said he’s happy with the way his team performed.

“The bottom line was we had to be prepared to get the payroll processed, properly collect and account for project costs and generally keep the systems going,” Eldridge said. “The transition was for the most part transparent and seamless. That’s a testimony to the work this transition team did prior to the official changeover.”

ASSAULT from page 2

must take conscious steps to understand, identify and reduce environmental risks, predatory and high-risk behaviors and personal vulnerabilities associated with sexual assaults or other abuse crimes.

It is up to you, as commanders and leaders, to safeguard our core values and Service cultures by promoting a climate and environment that incorporates SAPR principles as habitual and inherent characteristics of our commands.

Commanders and lead-

ers must personally read, understand and implement this strategy. We are fully committed to supporting your efforts to put this Strategic Direction into action and operationalize SAPR within your commands across the Joint Force. We will set the conditions for you to take positive actions that reinstate our military culture and create command climates and environments based on mutual respect, trust and confidence.

You have our respect, trust and confidence.

Breakdown of ATA restructuring

- The Resource Provisioning Department was eliminated, and its functions were realigned within other departments.
- The Support Services Department was renamed the Mission Support Department and expanded to include the various Civil Engineering functions, Utilities, Warehouse/Distribution, Transportation, Maintenance Operations Control Center and Operations Center functions that were previously under the Resource Provisioning Department, Facilities Operations and Maintenance Department and Project and Design Engineering Department.
- The Facilities Operations and Maintenance Department was renamed the Test Assets and Support Department. Civil Engineering and Utilities functions were reassigned to the Mission Support Department. This department assumed responsibility of the Precision Measurement Equipment Laboratory and Test Measurement and Diagnostic Equipment functions that were previously assigned to the Information Technology and Systems Department. It also assumed responsibility of the Maintenance Operations Control Center and Integrated Scheduling functions that were assigned to the Resource Provisioning Department.
- The Performance Management Department was expanded to include all administrative and company-wide support functions. Human Resources, Property Administration, Purchasing, Public Affairs, Publications, Finance, Environmental and Safety and Health groups were reassigned to this department.
- The Project and Design Engineering Department, Integrated Test and Evaluation Department and Information Technology and Systems Department remained essentially unchanged outside of the previously mentioned reassignments.



FROM DRAFTSMAN TO ENGINEER

Aaron Wisner, an ATA Design Engineering Branch draftsman, employs the newest CADD technology for his work (right), but still gets the big picture with actual drawings and blueprints of a project. Wisner just graduated from the University of Tennessee at Chattanooga with a bachelor's of science degree in mechanical engineering. (Photos by Jacqueline Cowan)

Aaron Wisner shares his journey from high school to working at AEDC

By Philip Lorenz III
Aerospace Testing Alliance

When Aaron Wisner turned 18, like many young people, he found the path to take in life posed more questions than answers.

Throughout high school, Wisner, a draftsman for the ATA Design Engineering Branch, took courses geared toward college, but he still was on the fence about what degree to pursue and college was only a consideration at the time.

Exploring another option, he took a computer aided design and drafting (CADD) class during his senior year in high school. It was the first vocational class he had ever taken in school.

That experience "sparked" his interest in drafting and drove his decision to enroll in Shelbyville Technology Center. He still was on the fence about college and wanted to invest his money appropriately.

After graduating from Shelbyville Tech, Wisner found a job doing CADD work designing houses with a company in Franklin, Tenn. The experience brought him close to considering pursuing a college degree in architecture.

"For three years, that's all we did was design houses," he said. "I was almost ready to go for the architectural side of it, and

then a job here came open for CADD."

However, the job opening at AEDC in 2005 changed the course of his life.

"That put [the study of architecture] on the back burner," he said. "Then I realized, I don't think there's anybody doing engineering in my family."

"I didn't really know much about the engineering side of anything. That's when I met people here and that's when I was introduced to it [for] the first time. It really interested me because I like tinkering with things."

Wiser attended Motlow State Community College for two years before transferring to the University of Tennessee at Chattanooga (UTC).

All of his hard work, both at AEDC and academically, has paid off. Wiser graduated magna cum laude from UTC with a bachelor's degree in mechanical engineering May 5.

Sharon Carter, deputy of ATA's Project and Design Engineering Branch, is impressed with what Wiser has been able to accomplish while at AEDC.

"Aaron is an excellent drafter who has a great work ethic and is very bright," she said. "He has been going to school almost full-time while still keeping

his standing as a full-time ATA employee. Louis [Vanacore], Jeff [Utley] and I believe that he will be an excellent engineer."

Besides balancing a full-time job and a heavy academic load, Wiser also got married five years ago.

"My wife, Amanda, has really been a big help to me through all of this," he said. "I couldn't have juggled all three things at once when I was younger because you just don't have those skills."

He also credits the support and mentoring from his coworkers.

"John McInturff has really been the biggest influence—he's an ATA mechanical engineer," Wiser said. "I'd go over to his house on a Sunday and say 'can you help me explain this engineering problem?'"

John Payne, an ATA electrical designer, also took time to mentor the young man.

"He's been a big influence on me, too," Wiser said. "It's just good to be working around people who you can go and ask, 'well, I've got an electrical problem and I'm mechanical so, how do you work this problem?'"

Wiser's great aunt, Debbie Wiser, is an ATA general clerk for purchasing.

She has watched a boy grow to manhood and mature.

"He has always been a wonderful kid with white cotton hair and a beautiful smile growing up, never caused his parents any trouble," she said. "Professionally he carried over the same traits from his childhood."

"Aaron works hard and will give 110 percent at everything he does. He's been balancing a full-time job on base, going to school and he also got married at some point during such a hectic period of time."

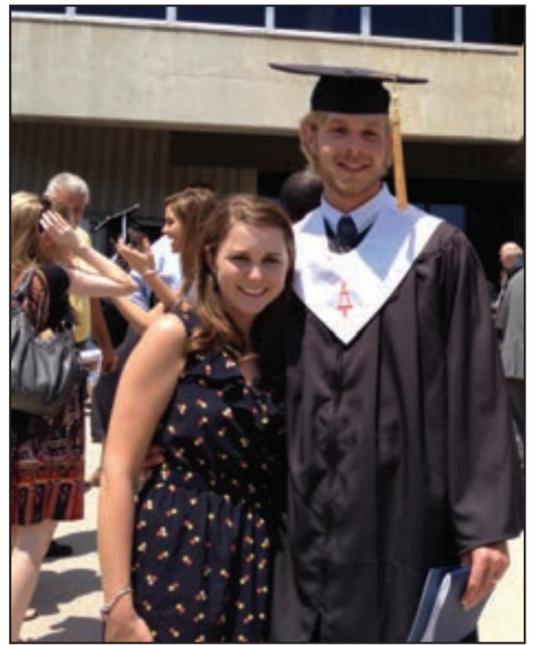
She added, "That's a lot to tackle and take on successfully for anyone, at any age. I'm so proud of him."

Maureen Burke, ATA Facility Design Section manager, has enjoyed working with Wiser.

"Aaron is professional, smart, energetic and a pleasure to work with," she said.

"Aaron works on a variety of CADD projects, from mechanical drawings to civil, architectural and electrical drawings. He is considered one of our top producers in the CADD Department. His efficiency and ability to churn out work is a major contributor to our success at meeting deadlines. He was part of a team to create a very large mechanical piping drawing package for replacement of the VKF raw water line."

Wiser served as the vice president of the UTC chap-



Aaron Wisner poses for a photo with his wife Amanda at his graduation May 5 from the University of Tennessee at Chattanooga. Wiser graduated with a bachelor's degree in mechanical engineering. Aaron has worked at AEDC as an ATA Design Engineering Branch draftsman since 2005. (Photo provided)

ter of the Tau Beta Pi National Engineering Honor Society.

"Aaron has been a good vice-president, helping the president with membership duties, and has represented our local chapter to others very well," said professor Gary H. McDonald, Ph.D., P.E, mechanical engineering department head for the College of Engineering & Computer Science at UTC. "I think he will be an outstanding asset to AEDC. First, an engineer

in performing the various tests at AEDC, and then later in his career, I feel he possesses the personal and intellectual skills to be a good manager of both people and of technological systems."

Wiser said he isn't sure how he will spend his time now that he has graduated from UTC.

"I have no clue, I could probably find millions of things to fill my time with, but I want to try to relax for a month or two."

AEDC's first Cruise-In considered a success

More than \$1,800 raised for base organizations

By Patrick Ary
Aerospace Testing Alliance

Organizers of AEDC's first ever Cruise-In say the event was a great success that they would like to see happen again.

Almost 80 participants brought cars, trucks and motorcycles to the event May 11, and the mild, sunny weather brought out onlookers from all over the center to see the hot rods and classic cars on display.

"I think it turned out really well," said Shannon Tibbals, a planning committee member and a system and test engineer in AEDC's von Kármán Gas Dynamics Facility. "I was expecting maybe 40 cars when we originally sent out the call for participants, so to get almost 80 is really impressive."

The Cruise-In idea was put forth in March by AEDC Commander Col. Michael Brewer and ATA General Manager Steve Pearson as a way to spend a Friday lunch break relaxing.

"They were looking for something that was kind of a tension-breaker for the workforce," said Dr. Ralph Jones, one of the event planners and manager of ATA's Technology and Analysis Branch. "The prior few weeks really had the workforce focused on the end of the award fee period and associated briefings along with preparation for the Unit Compliance Inspection visit, in addition to all the activities that are normally underway at the center. They asked if we could come up with some folks who were interested in cars that would be willing to organize this, and so we came up with about a dozen names."

"We had a few in the core group that handled the early planning coordination and a number of others on the day of the event to help with parking and other duties."

Tom Parrish, another event planner and C-2 test cell project engineer, said committee members weren't sure how the turnout was going to be when they started planning, but everything turned out perfectly.

"I was surprised we had so many cars," Parrish said. "It was great to see a wide variety of cars from the late 1930s all the way up to brand new cars."

People came out during lunchtime to have some lunch sold by the base Top IV and Company Grade Officers associations, listen to classic rock from the 1950s to 1970s and check out the automobiles their coworkers brought to show off.

Money from the food sold at the event went to the center's Top IV and CGO associations, who ended up with \$1,880 that will be used for care packages for deployed troops, projects with the Boy Scouts of America and events like the AEDC Children's Christmas Party.

People also voted for

their favorite vehicle of the show. The People's Choice award went to Jim Mills, safety manager for Walbridge Aldinger. Walbridge is currently at the center working on the Turbine Engine Dry Air Capability Phase 2 project at AEDC's C-Plant Airside building.

"I'm totally shocked," Mills said. "It never crossed my mind that I'd win it. There are a lot of nice cars out here. It's an honor."

Mills had gotten a heads-up from someone on base that the Cruise-In was going to take place, so he brought his 1940 Oldsmobile Business Coupe up from Alabama to show at the event. He's owned the car 16 years and restored it from the frame up.

"I had a great time," Mills said of the event. "It gives the people who work out here an outlet to let everybody else know what their hobbies are. They talk about their cars but you never see them, and you come to an event like this and now all of a sudden, everyone's going to be associated with a vehicle."

Other participants brought more than one vehicle. Frankie Hill, a water treatment and wastewater



Employees brought cars from all generations to AEDC's Cruise-In May 11. Employees spent almost two hours walking through the parking lot by the Administration and Engineering Building talking with coworkers about their vehicles. (Photo by Jacqueline Cowan)

operator, brought his 2011 Shelby GT 500 and a 1959 Ford Fairlane Galaxie 500. He wanted to bring three more cars but couldn't find enough people to drive them in.

"There are a lot of pretty vehicles out here," Hill said of the event. "They're all beautiful – those Camaros even. I'd forgotten how pretty they look because I haven't messed with one in so long."

Some AEDC employees even brought their families out to the center to walk through the parking lot and see the different vehicles on display. The high turnout for the event has everyone involved with the planning hopeful that another Cruise In will take place in the future.

"I don't think there's any question that we're going to try to do it again next year," Jones said. "A lot of what made it successful was obviously the participation of the planning team and the folks that showed up, but the weather made it just perfect. It wasn't too hot or windy and you could smell the burgers and hot dogs cooking and the music playing in the background. It was just the perfect atmosphere."



Above, Information International Associates customer service representative Wilsie Ford checks out a 1940 Oldsmobile Business Coupe, owned by Walbridge safety manager Jim Mills, received the People's Choice Award at AEDC's Cruise-In May 11. Below, Mills is presented with the Cruise-In's People's Choice Award by AEDC Commander Col. Michael Brewer. (Above photo by Jacqueline Cowan; photo below by Patrick Ary)



AEDC Power Control workers stay busy 24/7

By Philip Lorenz III
Aerospace Testing Alliance

To say that electrical power at AEDC is a big deal is an understatement.

When Joe Migliaccio, ATA lead test engineer at the Large Rocket Test Facility J6, flipped the switch to fire a CASTOR rocket motor for a well-attended test at AEDC, he had a lot on his mind, including whether there would be power.

“Since rocket testing is short duration – about one or two minutes – the probability of a power loss during that time frame seems small, but then again, with solid rockets we only get one chance to get the data,” he said. “You can’t fire it twice.”

Despite his concerns, Migliaccio is able to focus on the mission because of people like Mark Trybe, one of five power control dispatchers and operators on base who are on the job 24/7, 365 days a year.

They operate the high-voltage electrical distribution system in support of test and base support facilities at AEDC. They also coordinate with TVA to balance the supply of power required for test and support missions and record a power usage based on meter readings or an estimate.

Think that sounds mundane or routine? Just ask those at AEDC who depend on a safe and reliable source of power.

“The ability to safely provide a massive amount of electrical power is critical to our unique engine altitude test capability,” said Col. Brent Peavy, AEDC’s Turbine Engine Ground

Test Complex director. “The decision to locate Arnold in middle Tennessee was heavily weighted by the availability of power from TVA.

“It is my understanding that when we bring the ASTF (Aeropropulsion Systems Test Facility) online we are one of the largest ‘cities’ on TVA’s grids, and thus one of the largest cities in the Southeast. The fact that we can achieve this safely every day for 16 hours or more is quite an accomplishment. The power guys have no margin for error.”

Tom Wiley, ATA’s electrical operations supervisor, said AEDC has two central facility transformers in the main substation and multiple substations for the other major test plants.

“All power for this base comes through the power control main substation here, which the dispatchers control,” he said. “It goes to eight major substations which in turn distributes [power] out to all of the facilities at AEDC.”

Asked what can go wrong with the power supplied to base, Wiley said, “If we lost an incoming line, most people here at AEDC would not know. Losing all incoming lines is unlikely unless it was some kind of major thing, then we’re looking at maybe 30 minutes [before] getting people back online.

“There are five dispatchers and five operators, they work 24/7,” Wiley said. “We have one dispatcher on duty per shift, through the second and third shifts. Sometimes we have a spare dispatcher which we call a relief who takes care of the



Mark Trybe, one of five ATA dispatchers at Power Control, points to a gauge on the configuration panel board for incoming 161 kilo volt (KV) power lines at AEDC. These configuration panel boards allow dispatchers to monitor and keep track of the incoming line voltage from TVA and the two central facilities’ transformers’ secondary voltages. This panel is also what the dispatcher would have to use to tie the two central facility transformers together to support switching on AEDC’s 13.8 KV distribution circuits. These configuration panel boards allow dispatchers like Trybe to monitor and keep track of power distribution on base, 24/7, 365 days a year. (Photo by Philip Lorenz)

outage work, the writing of the switching orders and the hold orders, where we do configuration control for safe maintenance.

“The dispatcher is responsible for the power coming into the base, the distribution, the load control on the feeder circuits, anything that comes up during his shift – switching, outages, anybody entering a substation, any work that’s going to go on a high voltage piece of equipment – they have to come through this dispatcher.”

To maintain safety, the dispatchers are the only ones who control power on base.

“We lock all of our systems that we have to keep online,” Wiley explained. “We lock them in a configuration where we’re the only ones who can change those. On a facility this size, we

cannot allow for somebody to just arbitrarily open this one here and do it this way. That would cause a lot of havoc on this base.”

Wiley added, “These folks are dedicated to what they do. And they have a good understanding of what the priority is here, safety being number one, mission being number two, safeguarding of the equipment and in general just taking care of business.”

Mark Trybe, an ATA dispatcher at Power Control, is a 30-year journeyman electrician with a background in high voltage and protective relaying. He worked at NASA’s Langley Research Center, Va., before joining AEDC’s workforce six years ago.

Trybe said vigilance is the only way to keep on top of the situation regarding power distribution on base. He said if there is a lightning strike at a substation, the response is routine at first, but could soon get complicated.

“We would get alarms, but we would have an operator go out and visually

inspect and give us a report over the radio of what he sees at the scene,” Trybe said. “If there is equipment on fire or damaged, we would probably have a main breaker trip, so we would know something happened, but the operator is our eyes and ears.”

Whatever the size and severity of an event, whether it is an accident, severe weather or terror event, Trybe said the dispatchers and operators are prepared to act quickly and safely.

“If you had ASTF, PWT (Propulsion Wind Tunnel Facility) and ETF (Engine Test Facility) – if you had all the big boys going, you want to stay attentive to what their load is, because we don’t want to charge them for a load they’re not using,” he said. “Every 30 minutes we’d take a contact with everybody in the control rooms, calling us as they’re coming off and on, because we have to contact TVA and let TVA know. TVA has to match generation to AEDC use.

“The worst thing we want to do is have ASTF

come up 150 megawatts and then TVA, let’s say in the middle of the summer, and they’re in a really heavy load condition. We don’t want to have TVA get penalties due to generation and use imbalance. We want to keep the test cells attentive to do what Power Control is coordinating with TVA and the same thing coming down; we don’t want to suddenly drop a big load.”

Max Andolsek, a Power Control operator who has been at AEDC for 21 years, said people in his position must have a strong background in electrical operations with an emphasis on high-voltage electricity.

“[We] perform equipment checks on electrical equipment, high voltage switching configurations, repair de-energized circuits and monitor circuit power demands,” he said. “I [also] ensure that voltage is discharged for maintenance in a safe way, with double and triple checking, to ensure lock-out tag-out procedures

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The Hypersonic International Flight Research Experimentation Program (HIFiRE) launches an experimental hypersonic scramjet vehicle from the Pacific Missile Range Facility in Hawaii during a recent research flight. The program is a joint effort between AFRL, NASA and Australia's Defence Science and Technology Organisation. (Photo provided)

HIFiRE flight to advance hypersonic technology

WRIGHT-PATTERSON AFB, Ohio – An international team that includes Air Force Research Laboratory and NASA is celebrating the successful launch on May 1 of an experimental hypersonic scramjet research flight from the Pacific Missile Range Facility in Hawaii.

NASA, AFRL and Australia's Defence Science and Technology Organisation (DSTO) are working with a number of partners on the HIFiRE (Hypersonic International Flight Research Experimentation Program) program to advance hypersonic flight - normally defined as beginning at Mach 5 - five times the speed of sound. The research program is aimed at exploring the fundamen-

tal technologies needed to achieve practical hypersonic flight. Being able to fly at hypersonic speeds would revolutionize high speed to long distance flight and provide more cost-effective access to space.

During the experiment the scramjet climbed to approximately 100,000 feet in altitude, accelerated from Mach 6 to Mach 8 and operated about 12 seconds - a huge accomplishment for flight at hypersonic speeds. It was the fourth of a planned series of up to 10 flights under HIFiRE and the second focused on scramjet engine research.

The HIFiRE 2 scramjet research payload included a hypersonic inward turning inlet, followed by a scramjet combustor and dual-exhaust

nozzle. In other words it looked sort of like a giant mechanical alligator with its jaws open or an old-fashioned clothespin - the kind without the metal clip. Over 700 instruments on board recorded and transmitted data to researchers on the ground. The payload was developed under a partnership between the AFRL and NASA, with contributions from the Navy's detachment at White Sands Missile Range, N.M. and ATK GASL located in Ronkonkoma, N.Y.

"This is the first time we have flight tested a hydrocarbon-fueled scramjet accelerating from Mach 6.5 to Mach 8," said NASA Hypersonics Project Scientist Ken Rock, based at NASA'S Langley Research Center in Hampton, Va. "The test will give us unique scientific data about scramjets transitioning from subsonic to supersonic combustion - something we can't simulate in wind tunnels."

The data collected during the execution of the HIFiRE experiments is expected to make a significant contribution to the development

of future high-speed air-breathing engine concepts and help improve design, modeling, and simulation tools.

The success of the three-stage launch system, consisting of two Terrier boost motors and an Oriole sustainer motor, is another significant achievement of the HIFiRE 2 mission. The HIFiRE 2 mission, the first flight of this sounding rocket configuration, opens the door for a new high-performance flight configuration to support future Air Force, Navy, and NASA flight research.

The HIFiRE team has already achieved some significant milestones such as the design, assembly and extensive pre-flight testing of the hypersonic vehicles and the design of complex avionics and flight systems. This successful flight test of a hydrocarbon-fueled scramjet research combustor represents yet another significant achievement for the HIFiRE program, with additional test flights scheduled in the coming months and years.

ATA publishes suicide prevention brochure

By Consetta Woosley
Aerospace Testing Alliance

Due to Air Force suicide rates rising 6 percent in the first two weeks of 2012, both the Air Force and Aerospace Testing Alliance (ATA) are taking measures to educate personnel on suicide prevention.

The Vice Chief of Staff of the Air Force directed an additional Wingman Day in January specifically to address suicide prevention. The Wingman Day activities centered around small group discussions and covered information about suicide, depression, being resilient and asking for help.

Along with the Air Force, ATA has taken action to address suicide prevention with the recent release of a brochure entitled "Suicide in the Workplace." The brochure, a combined effort of ATA's Human Resources and Safety and Health Departments, has already been distributed to directors and branch managers.

"While suicide has no

immunization, we can only strive to be alert for signs and when in doubt, take the bold step to encourage the person to seek assistance," said ATA Human Resources Manager Mike Cunningham, "We want employees to know what avenues of assistance are available to them, and the brochure covers that along with behaviors that might be a cause for concern."

Although the brochure was designed as a quick reference guide for managers and supervisors to know what appropriate action should be taken in the event of a suicide or attempted suicide in the workplace, the brochure also contains information about the Employee Assistance Program and other resources concerning suicide prevention.

The brochure is available on the ATA Benefits Website under the Employee Assistance Program. It can also be found on ATA's Manager Resource Center through the portal or by contacting an ATA human resources representative.

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are being performed as required.

"You have to work well with your dispatcher on proper high voltage switching configurations to protect Air Force resources and personnel."

For Mark Smith, ATA project manager at AEDC's high-enthalpy arc-heated facilities, electrical power is the life blood of testing.

"We receive excellent support from the power control group, and we really appreciate their expertise," he said. "It is absolutely 'mission-essential' for us.

"The power supply is an essential component of all arc jet tests at AEDC. Since the arcs use large amounts of power, the power feed must be coordinated with TVA through the Power Control group. In addition, Power Control also ensures that there are no inherent conflicts in HTL (High Temperature Laboratory) the power usage with other facilities, such as the adjacent PWT wind tunnels, primarily 16T and 4T."

Smith doesn't like to think about a power surge

or an outage.

"In the AEDC arc jets, large amounts - up to 70 megawatts - of electrical power are converted to thermal energy in the arc heater," he said. "This in turn provides the necessary aerothermal test conditions for our customers."

He said power input to the arc heater is carefully monitored by the facility instrumentation and computers throughout each run. Any deviation in arc current or voltage outside of the preset limits will result in immediate termination of the run.

Smith added, "If this happens, it will often result in data loss to a customer test article if the test article is under test at the time of the shutdown. Since these are typically expensive test articles, such a data loss would be significant to any test program."

The bottom line is the test customers have good reason to trust that they will have power delivered reliably, efficiently and safely whenever needed, 365 days a year, 24/7.

E&CAC awards Hap Arnold winners with savings bonds

The ATA Hap Arnold Awards were presented at the Chattanooga Regional Science and Engineering Fair March 14. ATA's Employee and Community Activities Committee donations provided the junior division award winners with a \$50 savings bond and senior division award winners with a \$100 savings bond.



Junior division winners were, from left, Turner Baccus (Boyd-Buchanan School), Christina Love (Girls Preparatory School) and Sara McDougal (Girls Preparatory School). Not pictured is Noah Price (Our Lady of Perpetual Help School). (Photo provided)



Senior division winners were Rebecca Goodrich (Girls Preparatory School), left, and Gerald Lawlor (Notre Dame High School and overall grand prize winner of the fair). (Photo provided)

Global Strike Command leader previews B-52 upgrades

BARKSDALE AIR FORCE BASE, La. (AFNS) – During a recent visit to Edwards AFB, Calif., the commander of Air Force Global Strike Command spent time with B-52 Combined Test Force officials to preview the combat capability enhancements made to the B-52H Stratofortress.

Modernizing and sustaining the nation's long range strike aviation capability is a top priority for the command, Lt. Gen. Jim Kowalski said, who recently noted the B-52 has served and delivered decisive effects in many recent U.S. conflicts to include Operation Iraqi Freedom.

We're celebrating this year as the Year of the B-52, marking both the 50th anniversary of the last delivery of a B-52H to Minot AFB, N.D., and the 60th anniversary of the first test flight of the YB-52, he said.

He attributed the reliability and combat capability of the dual-role bomber to the talented maintenance personnel, outstanding depot support and the Air Force's continued investment in the airframe.

The B-52H is a dual-capable aircraft designed to carry a variety of weapons in support of a range of military operations. It has been projected for a number of upgrades that have already been made to the two B-52H test aircraft at Edwards AFB.

These upgrades are integral to ensuring the B-52H

is both effective and able to fully integrate with other services, as envisioned in the Air Sea Battle concept, according to command officials.

Among the upgrades is a guided "smart weapon" capability in the B-52H's internal weapons bay, which provides a 66 percent increase in guided weapons payload. Another current program is an upgrade to the latest Advanced Targeting Pod, which will increase the B-52H effectiveness when performing close air support and other missions.

One of the test aircraft at Edwards AFB also featured an improved on-board communications upgrade called Combat Network Communications Technology (CONNECT).

The CONNECT program brings the B-52H from the analog into the digital age, according to command officials, providing an invaluable data link over which to pass mission and threat data.

With the new defense strategy placing a greater emphasis on the Pacific, it's really important that our bombers are fully networked and integrated with the joint force, Kowalski said.

The command provides a fleet of B-52Hs and a cadre of Airmen from Minot AFB and Barksdale AFB year-round in support of the continuous bomber presence mission in the Pacific, which ensures stability and

peace in the region.

"Long-range, payload, persistence ... these three attributes underlie key capabilities provided by Global Strike Command's B-2 and B-52H fleet," said Col. Rick Mitchell, the Bomber Requirements Division chief. "These attributes become increasingly important to combat the 'tyranny of distance' posed by the vast expanse of the Pacific Ocean.

"Integrating a beyond line-of-sight data link and installing new controls and color displays on the aircraft decreases the crew workload significantly," Mitchell said. "A controlling agency can now send mission updates to the B-52 via the data link without having to rely on voice communications.

"Because the data link is integrated with the aircraft offensive avionics system, the aircrew simply has to accept the mission change which is then automatically loaded into the avionics and weapons," he continued. "Our current and temporary datalink solution does not provide us with this capability. The ability of CONNECT to accomplish this retargeting allows for standoff weapons survivability and shorten the close air support kill chain."

These digital enhancements will ensure the viability of the B-52H well into the 21st century, Mitchell said.

(Courtesy of the Air Force Global Strike Command Public Affairs)



Lt. Gen. Jim Kowalski operates the Combat Network Communications Technology program on board a B-52H Stratofortress test bomber May 2, 2012, at Edwards Air Force Base, Calif. The communications program is designed to bring the B-52H from the analog to the digital age, enabling it to effectively communicate, integrate and network within the joint force environment. Kowalski is the commander of Air Force Global Strike Command. (U.S. Air Force photo/Jet Fabara)

Survey allows Airmen to speak frankly

JOINTBASE SAN ANTONIO – RANDOLPH, Texas (AFNS) – Would you like to tell your leaders what you think? You have that opportunity through the 2012 Air Force Climate Survey.

The survey officially kicked off Monday, and soon all Airmen will receive email invitations with a personalized link to enable them to share their thoughts, said Nicole Gamez, Air Force Manpower Agency. The survey will be available online through June 22.

The Air Force Climate Survey solicits opinions and perceptions of Air Force active duty, Reserve, Guard and civilian personnel on a wide range of topics, including resources, recognition, satisfaction and unit performance.

"Every member of the Total Force, military or civilian, plays a critical part in our mission success," said Secretary of the Air Force Michael Donley. "The questions are hard-hitting and

we need your direct, honest feedback."

The survey includes major command-specific questions, as well as opportunities to express opinions on how organizations can improve.

"Your feedback is confidential, so do not hesitate to let us know how you truly feel," Donley said. "If there are issues that need to be addressed, I want you to be candid and say so. If you are satisfied with your work environment, I would like to know that too."

Survey results will be briefed to Donley and Air Force Chief of Staff in September.

"It is important to note that unit reports do not contain any demographic information aside from active duty, Guard, Reserve or civilian status and officer, enlisted or civilian category breakouts," Gamez said. "If fewer than seven people respond to any status or category, the results for that status or category will not be

reported in a breakout at that unit level."

All responses roll up to the next unit level until there are seven or more members who respond to that status or category, she explained.

Through the survey, all Air Force members are able to communicate concerns that directly affect them and the unit mission.

"The feedback serves to improve each organization and our entire Air Force," Gamez said. "Look for your personal invitation to participate in the survey in your inbox and speak today to shape tomorrow!"

For more information about the 2012 AF Climate Survey, and to view the results of the 2010 survey, go to the Air Force Portal and click on the survey link.

For more information about personnel issues, visit the Air Force Personnel Services website at <https://gum-crm.csd.disa.mil>.

(Courtesy Air Force Personnel, Services and Manpower Public Affairs)



From left, Mick Marana (ATA), Christine Ewing (GSA), Oscar Villegas (NHI) Jeannette Moreno (NHI), Lindsay Haig (USAF) and Dan Marren (USAF) trained and ran together as Team AEDC in the 6th Annual White Oak Classic 5K race on-site May 4. Arnold Collier (USAF) and Rob Hale (ATA) (not pictured) registered, but had to drop out to support operations in a busy test schedule at Tunnel 9. (Photo provided)

Tunnel 9's Team AEDC competes in 6th Annual White Oak Classic 5K race

By Philip Lorenz III
Aerospace Testing Alliance

Six Team AEDC White Oak runners competed in the Annual White Oak Classic 5K race on-site May 4.

The Food and Drug Administration (FDA)-sponsored race takes place each year in May.

This race has been going on at FDA for many years and since moving to the White Oak campus six years ago, they have chosen to run it there. More than 1,000 employees participate each year.

AEDC Hypervelocity Wind Tunnel 9 employees participate each year and run and train as a team. Of those who did run, most improved their times from last year's race.

"This is our sixth year of training and running together as an AEDC team in the FDA White Oak Classic 5K," said Tunnel 9 Site Director Dan Marren. "Since our site here depends on the work of our partners GSA (General Service Administration) and NHI (New Horizons Industries), a company that supplies support services to Tunnel 9 through GSA, we invite them to run with us as Team AEDC."

He added, "I run because it's one of the ways we can participate together as a consolidated campus here at the Federal Research Center (FRC). Without our FDA and GSA partners, our quality of life here would be significantly lower."

"I cannot thank them enough for accepting us

into their operation. Participating in campus events is a small way to show connectivity. We can also show off that DoD winning spirit."

Christine Ewing, GSA Associate Regional Fine Arts Officer, has also enjoyed the camaraderie resulting from her professional ties with the Team AEDC participants and other teams taking part in the race.

"I have been working closely with FDA, AEDC and Labquest, coordinating artwork for the campus," she said. "For more than four years, I've felt like a team member as I've formed this partnership with them. It just seemed natural to be on AEDC's team this year for the White Oak 5K."

Memorial Day stirs memories for honor guard veteran

By Maj. Gabe Johnson
162nd Fighter Wing Public Affairs

TUCSON, Ariz. (AFNS) – This Memorial Day, while Americans gather to remember those who gave their lives for their freedoms, military honor guards will function as central fixtures at cemeteries, parades and solemn observances.

For Tech. Sgt. Michael Brizuela, a full-time F-16 Fighting Falcon crew chief at Tucson International Airport, the day is one of a thousand opportunities in his military career to pay his respects in the most profound way he knows how. For the last 30 years he's volunteered for Honor Guard duty.

With military precision, Brizuela has marched in parades, posted the colors, folded flags, carried coffins and played taps.

He's left crowded rooms speechless after performing the POW/MIA ceremony and he's heard the cries of families who have lost loved ones.

Most of all, he's heard words of sincere appreciation from fellow Americans for his role in carrying on some of the country's most revered traditions.

"First, I'm grateful I can still do it," he said. "Life has been good to me and as such I need to give back. I see it as a small return for the blessings I've been given. I don't consider 30 years to be an achievement. I consider this to be part of what is expected of me given the traits I've been taught. The honor guard is about honoring the country and those who have served it. This Memorial Day my thoughts will be with them."

Only months after graduating from Tucson's Amphitheater High School in 1981, he reported to Marine Corps basic training.

He began his career as an aircraft maintainer for F-4 Phantoms at Naval Air Station Dallas – his honor guard duties were performed on his own time.

Memorial Day 1982 was his first detail where he helped post the colors for a ceremony at Laurel Land

Cemetery in Dallas.

In 1983 Brizuela performed at a funeral where taps was played from a tape recording and a set of speakers. The recording didn't sit well with the young Marine. The next day he spent \$300 on a trumpet and began taking music lessons just to lean to play the 24-note song.

"I remember practicing at my barracks, driving people crazy," he said. "Once I played taps at a funeral I was locked into doing that. I was the only bugler in the area so I was very busy playing at ceremonies all over."

During his 10 years with the Marine Corps, he performed at an average of three funerals per week.

In 1991 he moved back to Tucson to be near his family. He enlisted in the Arizona Air National Guard's 162nd Fighter Wing and was instantly drawn to the unit's honor guard.

"One day I was leaving the hangar wearing my service dress and carrying my trumpet to play taps at my uncle's funeral. Someone saw me and asked where I was going, so I told him. The next day my first sergeant told me I was going to join the wing's honor guard."

Since then, Brizuela established himself as one of the unit's most dedicated honor guard volunteers, said Master Sgt. Frank Enfinger, the team manager.

"Let me put it this way, he once performed a detail on his wedding day," said Enfinger. "We can always count on him and there's nothing he won't do. He would even try to come home early from [temporary duty] to help with a detail if we needed him."

"Breezy was the honor guard member of the year for the Arizona Air National Guard in 2009. He deserved that recognition and he deserves it now for completing 30 years."

Brizuela openly acknowledges the emotional toll of honor guard duty.

His most difficult de-

tails were at funerals for co-workers and friends, or when he presented the folded U.S. flag to grieving mothers and widows with a solemn speech in either English or Spanish:

– On behalf of the President of the United States and the people of a grateful nation, may I present this flag as a token of appreciation for the honorable and faithful service your loved one rendered this nation. May God bless you, and may God bless your family.

"It's very powerful," Brizuela said. "And when you do it in Spanish it's even more powerful because you are reaching out to the family and reminding them that service and sacrifice knows no language barriers."

According to Brizuela, the honor guard reminds servicemembers of their traditions as well as why they wear the uniform.

"And it shows the public that their military is professional and its people reflect qualities that inspire confidence," he said. "It makes people feel good about their country and the people on the front lines protecting it."



Tech. Sgt. Michael Brizuela, above left, performs a flag folding ceremony at a military retirement at the 162nd Fighter Wing in Tucson, Ariz. Thirty years ago this Memorial Day he first signed up for honor guard duty and has steadily volunteered ever since. (U.S. Air Force photo/Master Sgt. Dave Neve)



Tech. Sgt. Michael Brizuela, a staff sergeant in 1995, poses for a photo with his bugle and an F-16 Fighting Falcon at Tucson International Airport. The aircraft maintenance specialist has volunteered countless hours to performing honor guard duty over the last 30 years. (Courtesy photo)

Arnold Golf Course (GC) 454-GOLF, 454-FOOD

Check us out on Facebook! Arnold AFB Services Golf Course

Tuesday – Thursday Special: \$10 green fee for unlimited golf. Cart fee not included.

Member Guest Tournament will be held June 23-24 with 8 a.m. shotgun start both days. Entry fee is \$125 per team and includes green fees, cart, food and prizes. Sign up in the Pro Shop by June 21.

Mulligan's Coffee Bar & Grill is open 10:30 a.m.-2 p.m. Monday through Friday and 8 a.m.-2 p.m. Saturday and Sunday. Call ahead orders for dine in or carry out, 454-FOOD (3663).

Arnold Lakeside Center (ALC) 454-3350

Check us out on Facebook! Arnold AFB Services Arnold Lakeside Center and Arnold AFB Services Information, Tickets and Travel

All who sign up for Members First Plus membership during the **Membership Matters membership drive**, now through July 13, will automatically receive three months free dues, be enrolled in the free cash back rewards program, and win \$5 to \$100 instantly upon application through a scratch-off gift card program.

"We want all personnel to consider membership and understand the benefits of membership, and our "Membership Matters" membership campaign gives them the opportunity to try it free for the first three months," said Fred McKenney, Chief of the Air Force Food and Beverage Division.

During the promotion everyone eligible and interested in AF "Club" membership should look for the membership promotional materials in Services activities. Pick up an application, fill it out, and experience the benefits of membership – the first three months' dues are on us! The membership card provides numerous benefits. The Military Free Cash rewards program is an outstanding benefit to members. When you use your membership card in any on-base Services activity, you earn 2 percent cash back on every eligible purchase including AAFES and Commissary. Additionally, you earn 1 percent cash back on eligible purchases everywhere else, including all off-base purchases. In addition to being able to redeem points for cash back and gift cards, you now can also redeem for travel, to include airline tickets, hotel, and car rental – super flexibility – and it is all free, as a benefit of club membership! Members First Plus offers members numerous free and inexpensive activities including discounts on meals to include special functions, an annual \$25,000 scholarship program, discounts on other areas in Services such as golf and boat rental and other member's only programs. Call 454-3350 for more information on Members First Plus membership.

Club Membership Scholarship Program is back. Members First Plus members and their family members who have been accepted by or enrolled in an accredited college or university for entry during the 2012 fall term as part-time or full-time are eligible to enter. There will be twenty-five \$1,000 scholarships awarded during this program. To enter you must write a 500-word essay following the required formatting on the topic "What do the words to America the Beautiful mean to me" and submit on CD to Services Marketing, A&E Room C303, by July 2. Along with the essay, complete the entry form and provide current college/university acceptance letter for new students or official transcripts for those already enrolled. Entry forms are available at Arnold Lakeside Center, Fitness Center, Arnold Golf Course, Outdoor Recreation and Marketing. Winners will be announced on Sept. 17. For more information visit www.afclubs.net.

First Friday Jam is cancelled for June and July but will return in August.

Weekend dining room specials (all include two sides and salad bar):

All specials and times are subject to change without notice. Please call ahead

See Briefs, page H2

Camp Adventure begins June 4

Services Youth Programs will host Camp Adventure, a summer day camp run by skilled professionals through the University of Northern Iowa, beginning June 4.

The camp will run for nine weeks Monday through Friday from 7:30 a.m.-4:30 p.m. This program is for ages 5-12, and children may attend any or all of the nine weeks.

Each week is set to a theme with activities and field trips planned to coincide with that theme. Morning and afternoon snacks will be provided, but parents must supply their child with a sack lunch daily.

Outdoor and swimming activities are planned throughout the week, weather permitting, so it is recommended that each child bring an extra pair of clothing, swimsuit, towel and sunscreen daily. Closed-toe shoes must be worn at all times during camp.

Children may be dropped off no earlier than 7:15 a.m. each morning and any child not picked up by 4:30 p.m. will be transitioned to Open Recreation and must be picked up no later than 5:30 p.m. or an additional fee of \$10 will be applied.

Weekly fees are based on total household income ranging from \$55 to \$137 per week.

To enroll your child, complete the application form and provide a copy of your leave and earnings statement or W2 to



determine applicable fees. Other documentation required includes AF Form 1181, Youth Registration, and AF Form 1055, Medication Permission Slip (if applicable). Registration is required in advance, and a separate application is required for each child attending.

The weekly themes, activities and field trips are listed in the Youth Programs section.

Contact Youth Programs at 454-3277 for more information and to register.

Live Lean Green Workshop in Kentucky June 22

Ages 9-12 are invited to travel with Arnold Youth Programs to Ft. Campbell, Ky., to interact with the pre-teens there and work with their interactive sports wall.

Youth will work as teams or individually to randomly or sequentially hit moving lit targets with their hands, feet, bean bags, foam noodles and more to achieve their best score.

This activity will increase awareness, speed, agility and cognitive performance all while having fun.

Meet at Youth Programs in time for the 6 p.m. departure.

A meal will be provided on the bus and snacks will be available throughout the night. This trip must have 10 participants to go, and remember to wear tennis shoes and comfortable clothes.

Parents can pick their children up from Youth Programs at midnight. Call 454-3277 to sign up for this free event by June 19.

ALC plans Day Trip to Chattanooga June 16

Arnold Lakeside Center has planned a Day Trip to Chattanooga June 16 to visit Lookout Mountain and Ruby Falls.

Lookout Mountain is home to Rock City, which is 1,700 feet above sea level with a 100-foot waterfall that cascades down the mountain. It also has the famous Swing-A-Long bridge that spans nearly 200 feet.

The self-guided tour along the brow of the mountain gives you a bird's eye view where you can "See Seven States."

Ruby Falls is America's deepest cave and largest underground waterfall accessible to the public.

Meet at the ALC at 10 a.m. Cost is \$55 for adults and \$35 for ages 3-12.

Deadline to sign up is June 13. There must be at least six to take the trip. Remember to bring money for lunch and souvenirs.

Call 454-3303 for more information and to sign up.

Outdoor Rec to take Blue Moon Eco Tour Cruise June 23

Hear the fascinating stories of early navigation of the gorge and enjoy the breath-taking beauty of the 27,000-acre canyon carved out by 26 miles of the Tennessee River over thousands of years.

It is the fourth largest river canyon east of the Mississippi and the only large river canyon bordering a mid-sized city.

The diverse landscape of the gorge provides habitats for more than a thousand varieties of plants, fern, trees, grasses and flowers as well as a rich wildlife population.

Nearly 200 different species of birds inhabit "Tennessee's Grand Canyon." This trip begins in Chattanooga and will last two and a half hours. During the cruise enjoy a pulled pork and barbecue chicken meal to include potato salad, cole slaw, chips, pickle spear, tea and water. Cost for this adventure is \$65 per person and deadline to sign up is June 8.

Meet at Outdoor Rec at 11:15 a.m. and return approximately 5:15 p.m. Remember to bring your camera and extra money for sodas if desired.

Call 454-6084 for more information and to sign up.



27th Annual Golden Baton Relay June 13

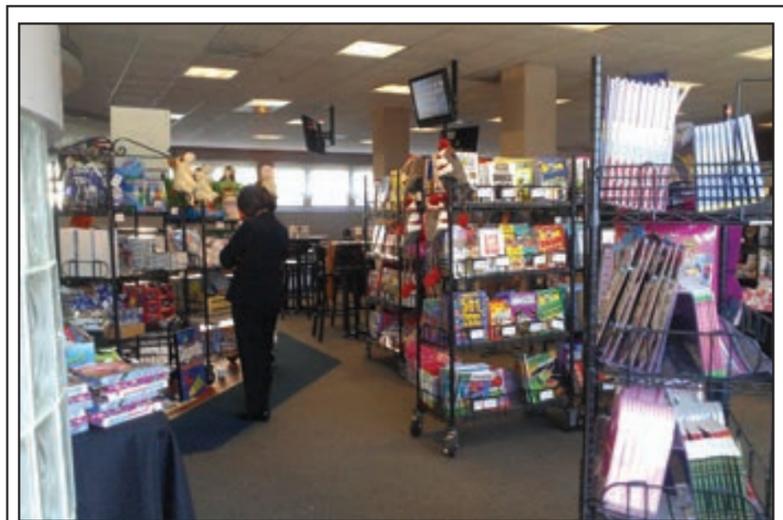
The Fitness Center will host the 27th Annual Golden Baton Relay June 13 beginning at 8 a.m.

The race will be held in front of the A&E building and each team runner must complete two laps before passing the baton to the next runner.

Teams must consist of four runners with a combined total age of at least 120 and one timekeeper.

Teams may select appropriate and tasteful ways to distinguish themselves and may bring their own baton or use batons provided by the Fitness Center.

The first six teams to sign up will receive event T-shirts. Prizes will also be given for the most clever team name, best team costumes and overall team speed. Call 454-6440 to sign up or for more details.



Book Fair returns June 5 to Café 100

Books Are Fun is back for a book fair 9:30 a.m.-3 p.m. June 5 in the A&E Building's Café 100, room C102.

Discounted selections include pa-

perbacks, best sellers, educational, reference, cookbooks, children's items, gift selections and more. Save up to 70 percent off retail prices.



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 Aerospace Testing Alliance (ATA). 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, the Department of the Air Force or ATA. 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
 Gossick Leadership Center – 454-4003

Hap's Pizza – 454-5555
 Cafe' 100 – 454-5885
 Membership Information – 454-3367
 Information, Tickets & Travel – 454-3303
 Fitness Center (FC) – 454-6440
 Outdoor Recreation (ODR) – 454-6084
 includes Marina, FamCamp, Crockett Cove & Dogwood Ridge

Recycling – 454-6068
 Family Member/Youth Programs – 454-3277
 Human Resources – 454-5481
 Marketing & Sponsorship – 454-3128
 Barber Shop – 454-6987
 Wingo Inn – 454-3051
 Golf Course (GC) – 455-GOLF (4653) or 454-7076
 Mulligan's Coffee Bar and Grill - 454-FOOD (3663)

June 2012

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
<h2 style="margin: 0;">Camp Adventure starts June 4!</h2> <h3 style="margin: 0;">454-3277</h3>					1 FamY Registration begins for Missoula Children's Theatre, 454-3277 FC Boot Camp 6 a.m. FC Piloga 11 a.m. ALC Mexican Buffet, \$7.95 member, \$9.95 non, 4-9 p.m. ALC First Friday Jam cancelled for June/July	2 ODR Paintball 9:30 a.m.-2:30 p.m., age 10+, \$35, 454-6084 ALC Express Menu only, 5-9 p.m.
3	4 FC Boot Camp 6 a.m. FamY Camp Adventure week 1, 454-3277 FC Cycling Class 11 a.m. FC Yoga 11 a.m.	5 ALC Book Fair, Café 100, 9:30 a.m. – 3 p.m. FC Cycling Class 11 a.m. FC Karate 3 p.m. FC Zumba 4:15 p.m. FC Exclusively Compound Class 5:30 p.m.	6 FC Boot Camp 6 a.m. FC Pilates 11 a.m.	7 FC Cycling Class 11 a.m. FC Karate 3 p.m. FC Zumba 4:15 p.m. ALC Dinner & Movie Night "Ghost Rider: Spirit of Vengeance" PG-13 dinner 5-8 p.m. movie 6:30 p.m.	8 FC Boot Camp 6 a.m. FC Piloga 11 a.m. ALC Butterfly Shrimp, \$10.95 member, \$12.95 non, 4-9 p.m.	9 ODR Lane Motor Museum, 8:30 a.m., \$23/\$25/\$27, sign up by June 5, 454-6084 ODR Paintball 9:30 a.m.-2:30 p.m., age 10+, \$35, 454-6084 ALC Express Menu only, 5-9 p.m.
10 ODR FamCamp lake boat tour, \$5, campers only, 10 a.m., 12 p.m., 2 p.m.	11 FC Boot Camp 6 a.m. FamY Camp Adventure week 2, 454-3277 FC Cycling Class 11 a.m. FC Yoga 11 a.m.	12 FC Cycling Class 11am FC Karate 3 p.m. FC Zumba 4:15 p.m. FC Exclusively Compound Class 5:30 p.m.	13 FC Boot Camp 6 a.m. FC Golden Baton Relay Race 8 a.m., front of A&E, 4 runners, 2 laps, 1 timekeeper, 454-6440 FC Pilates 11 a.m.	14 FC Cycling Class 11 a.m. FC Karate 3 p.m. FC Zumba 4:15 p.m. ALC Dinner & Movie Night "Big Miracle" PG dinner 5-8 p.m. movie 6:30 p.m.	15 FC Boot Camp 6 a.m. FC Piloga 11 a.m. ALC Italian Buffet, \$7.95 member, \$9.95 non, 4-9 p.m.	16 ODR Skydiving, 8:15 a.m., \$230, 454-6084 ODR Kayaking Class, 10 a.m., \$10, 454-6084 ODR Paintball Tournament 10 a.m., 454-6084 ALC Day Trip to Lookout Mountain/Ruby Falls, 10 a.m., \$55/\$35, 454-3303 ALC Express Menu only, 5-9 p.m. ODR FamCamp outdoor movie, "Red Tails", 7:30 p.m.
17	18 FC Boot Camp 6 a.m. FamY Camp Adventure week 3, 454-3277 FC Cycling Class 11 a.m. FC Yoga 11 a.m.	19 FC Cycling Class 11 a.m. FC Karate 3 p.m. FC Zumba 4:15 p.m. FC Exclusively Compound Class 5:30 p.m.	20 FC Boot Camp 6 a.m. FC Pilates 11 a.m.	21 FC Cycling Class 11 a.m. FC Karate 3 p.m. FC Zumba 4:15 p.m. ALC Dinner & Movie Night "John Carter" PG-13 dinner 5-8 p.m. movie 6:30 p.m.	22 FC Boot Camp 6 a.m. FC Piloga 11 a.m. ALC Fried Chicken Plate, \$9.95 members, \$11.95 non, 4-9 p.m. FamY Pre-teen Live Lean Green Workshop, 6 p.m. – 12 a.m., sign up by June 19, 454-3277	23 GC Member Guest Touranment 8 a.m., \$125 per team ODR Paintball 9:30 a.m.-2:30 p.m., age 10+, \$35, 454-6084 ODR Blue Moon Eco Tour Cruise, \$65, 11:15 a.m., 454-6084 ALC Express Menu only, 5-9 p.m.
24 ODR FamCamp lake boat tour, \$5, campers only, 10 a.m., 12 p.m., 2 p.m.	25 FC Boot Camp 6 a.m. FamY Camp Adventure week 4, 454-3277 FC Cycling Class 11 a.m. FC Yoga 11 a.m.	26 FC Cycling Class 11 a.m. FC Karate 3 p.m. FC Zumba 4:15 p.m. FC Exclusively Compound Class 5:30 p.m.	27 FC Boot Camp 6 a.m. FC Pilates 11 a.m.	28 FC Cycling Class 11 a.m. FC Karate 3 p.m. FC Zumba 4:15 p.m. ALC "Dr. Seuss' The Lorax" PG, dinner 5-8 p.m. movie 6:30 p.m.	29 FC Boot Camp 6 a.m. FC Piloga 11 a.m. ALC Barbecue Buffet, \$7.95 members, \$9.95 non, 4-9 p.m. ALC Last Friday Trivia, 6:30 p.m.	30 ODR Paintball 9:30 a.m.-2:30 p.m., age 10+, \$35, 454-6084 ALC Closed for special function ODR FamCamp outdoor movie, "Journey 2: The Mysterious Island", 7:30 p.m.

Hours of operation

Arnold Lakeside Center: Catering/Management offices by appointment. Cashier Monday through Friday 7 a.m.-3:30 p.m. 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 6:30 p.m.
Information, Tickets & Travel (ITT): Tuesday through Friday 10 a.m.-3 p.m.
Café 100: Monday through Friday 6:30 a.m.-1:30 p.m. **Closed May 28.**
Barber Shop: by appointment – Monday, Tuesday, Thursday & Friday 8 a.m.-4 p.m. **Closed May 28.**
GLC: Monday through Friday 7 a.m.-3:30 p.m. May vary depending on bookings. **Closed May 28.**
 Family Member/Youth Programs: Tuesday through Friday 10 a.m.-5 p.m., Saturday 12-5 p.m.
Outdoor Rec: Tuesday through Sunday 8 a.m.-6 p.m. FamCamp Store: Friday through Sunday 12-4 p.m.
Fitness Center: Monday-Friday 5 a.m.-9 p.m.; Saturday 8 a.m.-4 p.m. **Open 8 a.m.-4 p.m. May 28, no group classes.**
Arnold Golf Course: Pro Shop & Driving Range 7 a.m.-dusk. Driving Range open 24 hours with prepurchased key card. Mulligan's Coffee Bar & Grill Monday through Friday 10:30 a.m.-2 p.m., Saturday and Sunday 8 a.m.-2 p.m.
Recycling: Monday through Friday 7 a.m.- 4 p.m. **Closed May 28.**
Wingo Inn: Monday through Friday 7 a.m.- 6 p.m., Saturday and Sunday 8 a.m.-4 p.m.
Nonappropriated Funds Human Resources: Monday through Friday 7:30 a.m.-4 p.m. **Closed May 28.**

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 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 Chris Floden, 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 April 2012 totaled \$4,783.08.

Briefs from H1

to ensure availability and openings.

Friday 4-9 p.m.
 June 1: Mexican buffet, \$7.95 member, \$9.95 nonmember.
 June 8: Butterfly shrimp, \$10.95 member, \$12.95 nonmember.
 June 15: Italian buffet, \$7.95 member, \$9.95 nonmember.
 June 22: Fried chicken plate, \$9.95 member, \$11.95 nonmember.
 June 29: Barbecue buffet, \$7.95 member, \$9.95 nonmember.

Saturday 5-9 p.m.
 Express Menu only every Saturday.
 Closed June 30 for special function.

Last Friday Trivia Contest is 6:30 p.m. June 29. 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. Questions in random categories will be given. Prizes for top finishers.

**Family Member/
Youth Programs
(FamY)
454-3277**

**Check us out on
Facebook! Arnold**

AFB Services Youth Programs

America's Armed Forces Kids Run to be held May 26 with check-in at 8:30 a.m. As part of Armed Forces Day activities in May each year, military bases here in the United States, Bahrain, Greece, Puerto Rico, Germany, Japan, Iceland, England and Italy will participate in the Armed Forces Kids Run. The annual free event began in 1986 as Junior Bloomsday, the child's answer to the annual Bloomsday race that so captivates the Inland Northwest in early May

each year. The Armed Forces Kids Run is designed for children ages 5-13 with the younger kids running a half mile, ages 7-8 running one mile and older kids running two miles. Over the years 120,000 children have earned their own T-shirt by completing the annual run. T-shirts will be given to all participants that sign up in advance. This run has been recognized nationally in National Geographic World, National Road Runners Management, Runner World, USA Today and voted Best Children's Run by Runner World. Call to sign up or for

more details.

Camp Adventure weekly themes and activities:

Week 1: 4-8 June, Ice Age Charades & Escapades
 Set your sights for the Northern Lights! Camp Adventure is heading on an amazing adventure back through time. Pack your parkas and join Sid and his frosty friends as we experience fantastic fun the Ice Age way. We'll search for earthshaking and quaking Mesozoic marvels and search for colossal fossils! Navigate by the stars, go ice fishing and race your

kayaks. It's a frostbite invite to the North!

Swim: Tuesday & Thursday

Week 2: 11-15 June, Big Top Party Parade

Come one, come all to our Big Top Party Parade! Breeze through the air on a Camp Adventure trapeze and hop on board our circus train! It's miles of smiles with crazy clowns on a parade through town. There will be amazing animal antics and a big Zoo-prise when Marty and Melman, on the loose from the zoo, join us on our European circus tour. You'll find this

week of circus charades and parades simply sidesplitting at our Camp Adventure Show Stopping Spectacular.

Swim: Tuesday & Thursday

Field Trip: Friday, Nashville Zoo

Week 3: 18-22 June, Kimonos, Kites, & Japanese Folk Tales

Konnichiwa! Camp Adventure has your passport to Far East adventure! Enter the terrific Pacific Rim and explore the islands of Japan. Trek to the top of Mt. Fuji, wear a kimono, and karaoke

See Briefs, page H3

Briefs from H1

in Kyoto! Come fly kites with Camp Adventure and delight in a celebration of Japan! Follow the mysterious folklore of Far East fairytales into a teeny, tiny borrower's world of Arrietty and her family! Oh no... we are all shrinking!

Swim: Tuesday & Thursday

Week 4: 25-29 June, Gold Rush Miners and 49ers

Westward ho and away we go! Circle your wagons and follow the miners and 49ers to the wild frontier. Yipp-ee-i-o-ki-yeah! We're off to Cali-forn-i-a to pan for gold in the Prospector's Paradise. Saddle up and gallop on in for rootin' tootin' high fallootin' fun! Corral around the campfire and snuggle up under a blanket of stars. We're at home on the range showing how the west was FUN!

Swim: Tuesday & Thursday

Field Trip: Friday, Ruby Falls in Chattanooga

Week 5: 2-6 July, Fabulous 4th Freedom Fest

Come cheer for the team and the American dream with Camp Adventure. Say "hip-hip hooray" for Team USA at a double header of old-fashioned fun and fantastic friendships! Children of the nation cast YOUR vote and be counted at Camp Adventure's Convention Celebration. We're making sparks fly this 4th of July at our Star Spangled Spirit Spectacular!

Tuesday: Family Barbeque at ALC pavilion

Wednesday: Holiday CLOSED

Swim: Thursday

Week 6: 9-13 July, Cruisin' Through the Cosmos

It's your time to shine in a planetary race through outer space! See star-tacular scenes as we zoom to the moon and take a spin around the solar system. Learn the order of the planets and hunt for moon rocks. Rev up with rocket science and concoct space chase snacks and constellation crystals. Join Camp Adventure on this outrageous exploration celebration to the outer limits ... and may the Force be with you!

Swim: Tuesday & Thursday

Field Trip: Friday, Huntsville Space & Rocket Center

Week 7: 16-20 July, Outrageous Olympic Odyssey

Light the torch for the Camp Adventure Olympic trials and triumphs! The world gathers for the Olympic games in fun, fabulous London. Awesome Camp Adventure athletes are on an odyssey to the 2012 London Olympics. Join the international spirit in our opening ceremony with a proud parade of nations. This summer go for the gold! Dare to dream! You're an Olympian on the Camp Adventure team.

Swim: Tuesday & Thursday

Tuesday: Drama Quest Workshop- workshop uses role-playing to help students develop positive self-esteem, increase their communication skills and teach constructive group dynamics.

Thursday: Let's Make-Up Workshop- get visual image of theater make-up techniques

Note: Missoula Children's Theatre presents "The Tortoise Versus the

Hare" auditions Monday 4 p.m. at Manchester Performing Art Center with rehearsals Tuesday through Thursday 1:30-5:30 p.m. and Friday performance 7 p.m.

Week 8: 23-27 July, Slam Jammin' Sports Celebration

Batter up! Camp Athletes and coaches are off to a super start as we kick off a slam jammin' sports celebration! Join the track team to run for your personal best... take a step up to the plate and work on super soccer skills. Everyone is a player in the All-Star line up! So get geared up to star in spectacular sports of all sorts and a week of spirit, sports and celebration!

Swim: Tuesday & Thursday

Field Trip: Friday, Tullahoma Bowling Lanes

Week 9: 30 July - 3 Aug., Earth Friendly Extravaganza

Join our Earth Friendly Extravaganza! The Lorax is here to speak for the trees which everyone, everyone, everyone on Earth needs! Come play in the shade with the Brown Barbaloots, sing with the Swomee Swans and eat Truffula Fruits. Teach the Once-ler a lesson for once and for all. Hurry before the last Truffula Tree falls!

Swim: Tuesday & Thursday

Missoula Children's Theatre

is coming July 16-20 with "The Tortoise versus the Hare." Auditions are open to children entering first grade through 18 years of age. All AEDC families and local surrounding communities are eligible. Pre-registration is required between June 1 and July 12. A total of 60 cast members and four assistant directors will be filled. Cost is \$20 per child and additional children in the same family will receive \$5 off. Late registration fee will be \$25 and cancellation fee after July 12 is \$10. Payment is required at time of registration. Auditions for those registered will be held 4-6 p.m. July 16 at the Manchester Performing Arts Center with some rehearsal to follow. Rehearsal will continue throughout the week from 1:30-5:30 p.m. A public performance will be held at the Manchester Performing Arts Center 7 p.m. July 20. Admission is \$10 for adults and \$5 for ages 3-5 years.

"The Tortoise versus the Hare: The Greatest Race" is set somewhere in desert country, where the inhabitants of West Sandy Bottoms are preparing for the highlight of their year: the annual race between the Reptiles and the Mammals. A company of strolling actors attempts to tell the tale in classical fashion. The Hare's weasely managers brag about their racing star as the various reptiles assemble to choose their candidate. Fan clubs are preparing their cheers as the big day draws near. Philoh Ferret reminds the racing fans that his service station is for "mammals only." As we see the race through the eyes of a television news team covering the event, we soon discover that there is more than a sporting rivalry between the brown animals and the green animals. Loyalties to their specific colors create a real animosity among these creatures. Sound familiar? As the race proceeds, a tiny bunny is lost in the wilds of Tornado Gulch and, almost

miraculously, color is forgotten as the mammals and reptiles join in the search. The wisdom of the old tortoise and the lesson learned by the cocky hare remind us all that "color is just a color - it's just decorated skin." In the end, the animals realize the folly of their ways and live happily together in their sandy home.

Fitness Center (FC) 454-6440

Check us out on Facebook! Arnold AFB Services Fitness Center

The Fitness Center will hold the annual **Health and Wellness Expo** 11 a.m.-1 p.m. May 23. The event will kick off with a run (1 lap around Fitness Center trail) at 11:15 a.m. Visit booths and gain exposure and education on different dimensions of wellness. Pick up a door prize card when you arrive and while visiting the booths get the card initialed. Once the card is complete it may be entered for a chance to win prizes.

Exclusively Compound class

coming every Tuesday in June at 5:30 p.m. This class will go over compound/multi-joint movements, learning correct form, progressions and primary points of performance. Week one will be a Squat Clinic, week two Pull Clinic, week three Press Clinic and week four Putting it together along with the Olympic Lifts. A total of 16 movements will be covered. Space is limited and the class is for eligible users only. Call Kevin at the Fitness Center to sign up.

Outdoor Rec (ODR) 454-6084

Check us out on Facebook! Arnold AFB Services Outdoor Recreation

Paintball tournament is held on the third Saturday (except July and August) beginning at 10 a.m. Teams of four will play a single elimination tournament to test your skills until the best team arises. There must be at least one team member above age 18, and there must be at least six teams to hold the tournament. ODR has 25 paintball guns available on a first-come, first-served basis. Indicate at time of registration if you will be using your own equipment or need to reserve equipment. Cost to enter the tournament is \$25 per person and includes a bag of 500 balls and air for the day. Cost is \$20 if you use your own equipment. The winning team will receive a free day of paintball (regular Saturday play) for all four team members valid for one year and includes equipment, field fee, air for the day and bag of 500 balls. Additional prizes will be awarded each month to the winning team. Sign up deadline for the tournament will be the Tuesday prior and late registration/cancellation fees will be applied the Wednesday prior.

Paintball regular Saturday play is 9:30 a.m.-2:30 p.m. every weekend, except third Saturdays due to monthly tournaments and the months of July and August due to heat. Those interested need to call and sign up at least a day ahead of time to ensure equipment availability. When the day arrives, simply meet at the paintball field and get play underway with the direction

of an Outdoor Rec (ODR) staff member. Cost is \$35 per person with equipment provided and includes 500 paintballs and a tank of air. It is \$20 per person for those with their own equipment and that also comes with 500 paintballs. All paintballs used must be purchased from ODR for \$13 per bag of 500 or \$45 for a box of 2000.

All paintball programs are for ages 10 and older. Ages 10-17 must have a parent permission form.

Remember to wear appropriate clothing - long pants, a long-sleeved shirt and closed toe shoes - as paintballs fly at 300 feet per second and can sting and possibly leave a mark other than paint. Call 454-6084 for more information about the paintball program or to sign up for these events.

ODR NAF Sale includes trucks, van and camper.

Outdoor Recreation is having a sealed bid sale on Non-appropriated Fund vehicles and camper. The following items are for sale:

- 1) 1992 Chevy S10, regular cab, long bed - minimum bid \$800
- 2) 1995 Chevy 1500, extended cab, 4x4 - minimum bid \$3,000
- 3) 1998 Dodge Ram Wagon 3500, 15 passenger van - minimum bid \$3,000
- 4) 2005 Viking pop-up camper - minimum bid \$500

Sealed bids will be accepted until noon May 25 and must be submitted to Outdoor Recreation. Envelopes will be opened at noon and the highest bidder will be notified. The highest bidder has 24 hours to pay and remove the property; otherwise it goes to the next person. For information sheets or to see these items in advance please contact Outdoor Recreation at 454-6084. All items are as-is and sales are final.

Outdoor Rec is heading back to the Tullahoma Airport for **Skydiving** June 16. This adventure will be a tandem jump from approximately 14,000 feet. After just a few minutes of instruction you are ready for a 60-second freefall while attached securely to one of their certified tandem masters. The cost is \$230 and is for ages 18 and older. Meet at Outdoor Rec at 8:15 a.m. or at the Tullahoma Airport at 8:40 a.m. Finish time will depend on the number of participants. There must be a minimum of four to go and no more than 8. Sign up by May 25. Cancellation after May 25 will be nonrefundable. If interested in video or pictures of your jump you must request this at time of reservation. Additional charges will apply for this service. Call Outdoor Rec at 454-6084 for more information and to sign up.

Outdoor Rec is heading to the **Lane Motor Museum** June 9. The Lane Motor Museum features 150 unique cars and motorcycles and is home to the largest European collection in the U.S. The vehicles date from the 1920s all the way up to modern day and feature a varied collection of microcars, amphibious vehicles, military vehicles, alternative fuel vehicles, prototypes, one-of-a-kind vehicles and motorcycles. We will tour around the whole facility to see all the cars they have to offer. The cost for the trip is \$27 for age 18-64, \$25 for age

65 and older and \$23 for age 6-17. Meet at Outdoor Rec at 8:30 a.m. and remember to bring your camera. There must be at least eight to go and maximum participation is 14. Deadline to sign up is June 5.

FamCamp Activities consist of lake boat tours and outdoor movie nights.

FamCamp guests will have added incentive to stay during June. What better way to spend a couple of hours on a Sunday than on a leisure boat ride tour of Woods Reservoir? For only \$5 per person, take a two-hour ride around the 3,980-acre lake. While on the tour enjoy the scenery and wildlife as you hear stories of the lake and local area. Boat tours are available June 10 and 24 at 10 a.m., 12 p.m. and 2 p.m. If you are camping on Saturday, June 16 or 30, then you can enjoy an outdoor movie for free beginning at 7:30 p.m. Bring your chairs or blankets to the open grass area behind the upper bathhouse. June 16 will be showing "Red Tails," rated PG-13 starring Terrence Howard and Cuba Gooding, Jr. A crew of African American pilots in the Tuskegee training program, having faced segregation while kept mostly on the ground during WWII, are called into duty under the guidance of Col. A. J. Bullard. June 30 will be showing "Journey 2: The Mysterious Island," rated PG starring Dwayne Johnson and Michael Caine. Sean Anderson partners with his

mom's husband on a mission to find his grandfather, who is thought to be missing on a mythical island.

Basics of Lake Kayaking Class

will be held 10 a.m.-2 p.m. June 16. This class will give you basics needed for kayaking on our brand new sit-a-top kayaks. Learn how to sit properly in the kayak, how to do proper strokes, self and assisted rescue procedures, turning methods, proper entry into the kayak and more. This training will help familiarize you with kayaking and give you the necessary tools to be safe and have fun. Make sure you wear appropriate clothing and bring sunblock, because we will be getting in the lake during this class. Participants may bring their own kayak if they have one. The class is scheduled for two hours (depending on the amount of participants and questions) and then we will take a tour of the lake. This class is for ages 12 and up and cost is \$10 per person. There must be at least three to hold the class and maximum class size is six. Call to sign up by June 12.

Archery Basics Class

coming July 7 for ages 10 and older. The class costs \$3 and will begin at 9 a.m. Deadline to sign up is July 4. There must be at least three to take the course and no more than 10. This class will teach the basics of archery including how to hold a bow

See Briefs, page H4

June Movie Schedule

Movie nights are Thursdays with movie start time of 6:30 p.m. and dinner available from the Express or Pizza menus from 5-8 p.m.

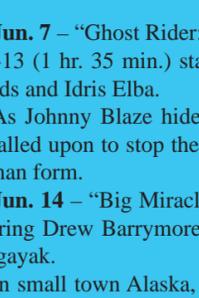
June 7



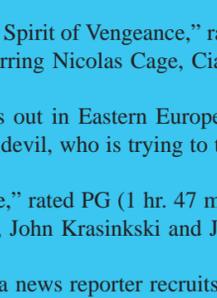
June 14



June 21



June 28



Jun. 7 - "Ghost Rider: Spirit of Vengeance," rated PG-13 (1 hr. 35 min.) starring Nicolas Cage, Ciaran Hinds and Idris Elba.

As Johnny Blaze hides out in Eastern Europe he is called upon to stop the devil, who is trying to take human form.

Jun. 14 - "Big Miracle," rated PG (1 hr. 47 min.) starring Drew Barrymore, John Krasinski and John Pingayak.

In small town Alaska, a news reporter recruits his ex-girlfriend - a Greenpeace volunteer - on a campaign to save a family of gray whales trapped by rapidly forming ice in the Arctic Circle.

Jun. 21 - "John Carter," rated PG-13 (2 hr. 12 min.) starring Taylor Kitsch, Lynn Collins and Willem Dafoe.

Transplanted to Mars, a Civil War vet discovers a lush planet inhabited by 12-foot tall barbarians. Finding himself a prisoner of these creatures, he escapes, only to encounter a princess who is in desperate need of a savior.

Jun. 28 - "Dr. Seuss' The Lorax," rated PG (1 hr. 26 min.) starring voices of Zac Efron, Taylor Swift and Danny Devito.

A 12-year-old boy searches for the one thing that will enable him to win the affection of the girl of his dreams. To find it he must discover the story of the Lorax - the grumpy, yet charming, creature who fights to protect the world.

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.

Briefs *from H3*

properly, how to shoot with correct technique and also learn some history. Bows, arrows and targets will be provided but you may bring your own equipment if you have it.

Canoe Basics Class is coming July 14 from 11 a.m.-2 p.m. In this class

you will learn the basics of canoeing. You will learn proper sitting positions, different strokes, the safety side of canoeing and learning how to work as a team. Get the summer started off right and learn the basics so you can go out on the lake completely confident and comfortable. Make sure you

wear appropriate clothing and bring sunblock, because we will be getting in the lake during this class. Participants may bring their own canoe. Class begins at 11 a.m. and will last approximately three hours. This class is for ages 12 and up and cost is \$7 per person. There must be at

least four to hold the class and maximum class size is eight. Call to sign up by July 11.

Wingo Inn
454-3051

Check us out on Face-

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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

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