



HIGH MACH

Serving the World's Premier Flight Simulation Test Center



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AEDC sets new testing record on F-22 Raptor engine

By Philip Lorenz III
Aerospace Testing Alliance

AEDC recently completed a Continuous Improvement Program (CIP) Life Extension Accelerated Mission Test (AMT) on an F119 engine for the F-22 Raptor in the Sea Level 2 (SL-2) facility.

"The purpose of this particular test, a life extension Accelerated Mission Test, was to add another 2,165 TACs (Total Accumulated Cycles) to it, which is equivalent to approximately another five years of life in the field," said Rich Walker, AEDC F119 engine test project manager.

This established a new record of ground testing on the engine, a record which had been previously set at AEDC in May 2010.

However, Walker said more importantly, it's what the test has accomplished for the warfighter.

"We're taking an engine that's already gone as far as it's supposed to go by specifications and now we're going to fly it the equivalent of five more years to see what happens, where the wear accumulates on parts, where things stop working the way they're supposed to work," he said. "The



See F-22, page 5 The F 119 engine is pictured undergoing AMT testing in SL-2 with the augmentor activated. (Photo by Rick Goodfriend)

As real as training gets



AEDC firefighters extinguish a fire in West Virginia University Fire Service Extension's training unit March 27. The fires in the trailer are fueled by propane. (Photo by Rick Goodfriend)

AEDC firefighters train in West Virginia University training unit

By Patrick Ary
Aerospace Testing Alliance

Members of the AEDC Fire Department spent March 27-29 training on how to fight fires using a state-of-the-art training facility on wheels.

The West Virginia University Fire Service Extension trailer allows fire-

fighters to train in a controlled environment. The trailer is set up with two propane-fueled fireplaces on the first floor, is capable of simulating a "roll-over" where fire can roll across a ceiling, and a fireplace on the second floor enables firefighters to train on advancing

See FIRE, page 5

Contaminated soil cleanup moving into next phase

By Patrick Ary
Aerospace Testing Alliance

Environmental workers at AEDC are calling ongoing efforts to clean contaminated soil on the base a success.

At the end of January, CH2MHill and subcontractor TerraTherm finished work behind AEDC's Model Shop, where a high concentration of perchlorethylene (PCE) had been found in the groundwater. The contamination goes back to before 1970, when the site was used as a leach pit for a solvent cleaning facility and no environmental regulations were in place.

No one at AEDC was coming into contact with the contaminant, according to Dennis Flatt, Aerospace Testing Alliance (ATA) section manager for environmental restoration and environmental compliance.

"The risk potential was long-term migration to downstream receptors – private wells and springs," Flatt said.

Over the course of 491 days, 165,000 pounds of PCE – more than 90 percent of the estimated amount of contaminants – was removed from the half-acre site and destroyed. The PCE was extracted from

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AEDC hosts AF International Affairs "outreach" briefing

By Philip Lorenz III
Aerospace Testing Alliance

Maj. Zachary Owen, Secretary of the Air Force International Affairs office, recently presented a briefing on collaborative foreign research and development (SAF/IA) opportunities to AEDC's Air Force and contractor engineer and scientist workforce.

"I came down to Arnold to talk to AEDC's engineer and scientist community about three programs I manage for SAF/

IA that is designed to foster international cooperative research and development," he said. "Two of the programs – Coalition Warfare Program (CWP) and the International Cooperative Research and Development (ICR&D) program – provide seed funds to research and development efforts that involve international partners.

"The third program is the Engineer and Scientist Exchange Program (ESEP) where Air Force civilians and officers can

See OUTREACH, page 4

AEDC shows changes in workplace at local Smithsonian exhibit

By Patrick Ary
Aerospace Testing Alliance

Over the last 60 years, AEDC has continued to perform its primary mission: develop, test and evaluate weapon, propulsion, aerodynamic and space systems at realistic conditions for the nation.

But many things regarding the way AEDC employees worked have changed, and some of them are being shown off during an exhibit at the Cowan Center for the Arts.

As part of the Smithsonian Exhibit "The Way We Worked," which wraps up its visit to Cowan tomorrow, AEDC set up a booth with photos, historic information and instruments that were commonly used during the 1950s and 1960s.

The Smithsonian exhibit explores the diversity of the American workforce and

dramatic changes in work environments and conditions throughout the years. Cowan is one of six towns in Tennessee to feature the exhibit.

Cowan Railroad Museum board member Patricia Ann Underwood said after they learned the exhibit would be coming to town, they started looking for area businesses that could contribute to the exhibit. In addition to reaching out to ATA, they were able to get displays for other area landmarks such as Falls Mill, the University of the South and Kokomo Grain Company. The museum board members also had to develop a companion exhibit about Cowan to go with the Smithsonian's.

"The goal of the Smithsonian exhibit is

See EXHIBIT, page 3



1st Lt. Charmeeeka Scroggins explains a slide rule and its past applications in work done at the center to students at the Smithsonian Exhibition in Cowan April 4. (Photo by Patrick Ary)

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HIGH MACH

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An Air Force Materiel Command Test Center

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- 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

Chief's perspective: Now is the time for bold leadership

By Chief Master Sgt. of the Air Force James Roy

WASHINGTON (AFNS)—Enlisted Airmen, A week ago I sent an email message titled Leadership vs. Policy to Command Chiefs and Career Field Managers. You may have seen that message, or parts of it, but I'd like to take the opportunity to address it with you directly.

The theme of the message was that too much arbitrary guidance could prove to be counterproductive. As supervisors, the more leverage we have to deal with situations on a case-by-case basis, the better.

Junior Enlisted Airmen
Young Airmen are our most precious resource. We spend millions of dol-

lars recruiting, training and equipping them to execute the tactical parts of the mission, and they never let us down.

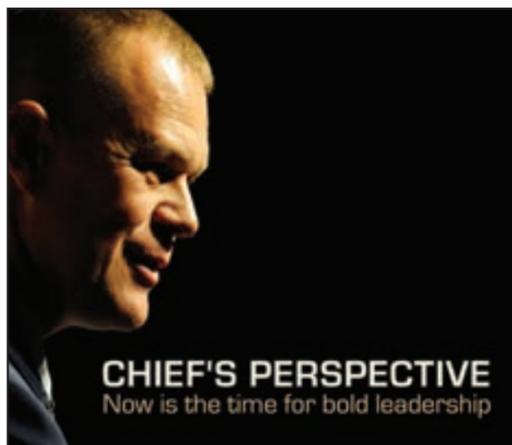
We owe junior enlisted Airmen the proper training, education and experiences it takes to develop them into leaders in their field. We owe it to them to explain what is expected of them, and to follow up with how they are meeting our expectations. We owe them the mentorship and guidance they need to succeed, and they should be expected to do everything they can to meet the high standard set by the supervisor.

NCOs
What our junior enlisted

Airmen learn about leadership and mentorship will shape how they eventually supervise. Therefore, first-line supervisors have an incredible responsibility. NCOs should set young Airmen up for success by outlining specifically how to earn their highest rating. Following that, mentoring and additional feedback should address specific shortfalls and how to overcome them.

We are growing leaders, not judging Airmen on their ability to get it right on their own. As a supervisor, you should do all you can to help your Airmen succeed. When used properly, the formal feedback process is a good

See ROY, page 6

**AEDC Advocates "Extending the Vision: Reaching Every Victim"**

By Leslie Tuttle
AEDC Paralegal

April 22, 2012, begins National Crime Victims' Rights Week, a time to honor crime victims and our nation's progress in advancing their rights. This year's theme—Extending the Vision: Reaching Every Victim—celebrates the vision behind that progress and the ideal of serving all victims of crime.

The vision that launched the victims' rights movement emerged more than 30 years ago. Then—as now—crime victims endured physical and emotional wounds, costly financial burdens, an often hostile criminal justice system, and an alarming public tendency to blame them for the crimes against them. Victims were often excluded from courtrooms, disrespected by officials, and afforded few rights. They began organizing to confront these challenges and to promote fair, compassionate, and respectful responses to victims of crime.

Since the 1980s, the nation has made dramatic progress in securing rights, protections and services for victims of crime. Every state has enacted victims' rights laws, and 32 states have constitutional victims' rights amendments. All states have victim compensation funds, and more than 10,000 victim service agencies have been established throughout the country. The Office for Victims of Crime, U.S. Department of Justice, supports a range of programs for crime victims, and seeks to extend those services to those who are underserved.

Yet there is still so much to do. Victims' rights are not universal and are often not enforced. Only a fraction of victims receive crime victim compensation, which is usually limited to victims of violent crime. More than 50 percent of crimes are not reported, and fewer than 20 percent of victims receive needed services. The victim services system is fragmented and uncoordinated, and agencies are struggling to keep their doors open in the face of budget cuts.

Yet victim advocates have not lost their resolve. "Our commitment to 'extend the vision' and 'reach every victim' will overcome every challenge that confronts us now," said Joye E. Frost, Acting Director, Office for Victims of Crime, U.S. Department of Justice. "The vision, determination and passion for justice that inspired our history will help us transform the future for every victim of crime."

National Crime Victims' Rights Week will begin in Washington, DC, at the Department of Justice's annual Attorney General's National Crime Victims' Service Awards Ceremony April 20 to honor outstanding individuals and programs that serve victims of crime.

Each community can encourage its members to participate in the week's events and find ways to help victims of crime. For additional information about National Crime Victims' Rights Week and how to help victims in your community, please contact Leslie Tuttle/AEDC/JA at (931) 454-7814. For more ideas on how to volunteer, visit the Office for Victims of Crime Web site, www.crimevictims.gov.

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

Notice of recent wrongful foreclosure settlement

By Capt. Abby Daniels
AEDC/JA

The federal government and various states' attorneys general recently reached a landmark settlement with the nation's five largest loan servicers, Ally/GMAC, Bank of America, Citi, JPMorgan Chase, and Wells Fargo. The settlement addresses past mortgage and foreclosure abuses. According to the settlement's website, www.nationalmortgagesettlement.com, the settlement will provide nearly \$25 billion in relief to distressed borrowers and direct payment to signing states and the federal government. The Tennessee Attorney General's office has signed on to the settlement.

If homeowners have ever tried to call their lender and ask a question, they have probably felt the pain of never talking to the same person twice. According to the Tennessee Attorney General's website, under the settlement, the participating servicers will also have to overhaul mortgage servicing practices, including the way in which they interact with homeowners.

Mortgage servicers must provide a single point of contact for the homeowner, thereby relieving the homeowner from being passed around to different employees each time they contact their servicer.

Servicers will also be restricted from foreclosing on borrowers while, at the same time, negotiating mortgage modifications. An independent monitor has been appointed to ensure that the five servicers fulfill the settlement requirements.

Who will benefit from the settlement?

Tennessee homeowners have been allocated an estimated \$146 million of the \$25 billion pool. The funds will be provided for: 1) Certain homeowners needing loan modifications now, including first and second lien principal reduction; 2) Qualifying borrowers who

are current on their payments, but are underwater; and 3) Borrowers who lost their homes to foreclosure under certain circumstances between 2008 and 2011. According to the settlement's website, borrowers who were not properly offered loss mitigation or who were otherwise improperly foreclosed on will be eligible for a uniform payment, approximately \$2,000 per borrower, depending on level of response. Borrowers who receive payments will not have to release any claims and will be free to seek additional relief in the courts. Borrowers may also be eligible for a separate restitution process administered by the federal banking regulators.

The settlement contains a number of provisions designed both to protect servicemembers' rights under the Servicemembers Civil Relief Act (SCRA) and to provide them significant additional benefits. Wells Fargo, Ally, Citi, and JPMorgan Chase will conduct a full review, overseen by the Department of Justice, to determine whether any servicemembers were foreclosed on in violation of the SCRA since Jan. 1, 2006.

Wells Fargo, Citi, and Ally will be required to provide any servicemember who was a victim of a wrongful foreclosure at least \$116,785, plus the servicemember's lost equity and interest. JPMorgan Chase will provide any servicemember who was a victim of a wrongful foreclosure due to a SCRA violation either his or her home free and clear of any debt plus compensation for additional harm or the cash equivalent of the full value the home at the time of sale plus compensation for additional harm.

What should I do if I think I can benefit?

Any servicemember who believes his or her rights were violated by these five servicers can contact the Justice Department directly at 1-800-896-7743.

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://lppaprot.arnold.af.mil/PORTAL/imagess/Smoking_area_map.pdf. Smoking near a facility in an area not designated on the map is prohibited and any smoking receptacles located in areas not shown on the map will be removed. All "smoking permitted" and "no smoking" signs will be removed unless specifically required by OSHA.

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

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

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.

AEDC engineers contribute to MTSU's WISE panel discussion

By Philip Lorenz III
Aerospace Testing Alliance

Two of AEDC's engineers figured prominently in a recent Women in Science, Technology, Engineering and Mathematics (WISTEM) panel discussion hosted by and held at the Middle Tennessee State University in Murfreesboro.

Dr. Judith Iriarte-Gross, MTSU's WISTEM Center director and chemistry professor, said she is proud of what her organization has been able to accomplish since its founding in 2009. She credits the engineers from AEDC, Nissan and Schneider Electric who led the "successful" panel and webcast discussion

Feb. 21 for encouraging girls to pursue scientifically-oriented educations and careers.

The webcast/panel is called WISE Women: Engineer the Future, Version 2.0.

"Kathy Nichols had to really tell the girls 'okay we've got to move on, we'll answer your questions in a few minutes,'" Dr. Iriarte-Gross said. "They kept asking these wonderful questions.

"Usually we have to kind of prompt the girls to ask questions, but we did not have to do that with this group."

Nichols, ATA liaison to AEDC's Air Force Contracting Office and a mechanical engineer, served as the panel's moderator

and Carrie Reinholtz, a technology project manager for AEDC's technology branch, was on the panel that answered a wide variety of questions from more than 15 middle school students from the Nashville area.

Reinholtz said Nichols had prepared the panel members for the type of questions they anticipated the girls would likely ask them, but the students' interest quickly took over.

"For example, the questions we prepared were: 'why did you choose to go into engineering?' and 'what courses do you need to take in high school and college?'" she said. "However, we encouraged questions throughout, and in no time we had the

girls raising their hands and asking question after question.

"It really just took off from there. Their questions sparked more questions and that's what I personally like to see in panel discussions. The girls were processing our responses, which sparked more interest and inquiry about not only the engineering career field and schooling, but also our personal hardships and challenges that we experienced along the way."

Reinholtz, whose 3-year-old daughter, Adylin, is already playing with LEGOs, taking things apart and helping her mother with simple repairs, said, "I participated in the 'Take Your Daughters to Work' day with my

mom when I was in fifth grade."

"My mother worked at Ohio Aerospace Institute (OAI) in Cleveland, Ohio. I interviewed an astronaut candidate selector and was so intrigued that I asked him, 'What do I do to be an astronaut major when I get to college?'"

"He laughed and responded, 'There's really no such thing as an astronaut major.' So, I said 'okay, what do I have to do, because I would love to be an astronaut someday.' He recommended going into math or science and to stay physically fit which is what pushed more toward the science and engineering education and

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ATA sponsors Tullahoma Kiwanis fireworks show



ATA Deputy General Manager Phil Stich, center, presents a check to Tullahoma Kiwanis Club Fundraising Chairman Milt Davis Sr., left, and Kiwanis Independence Day Coordinator Dr. Mike Rutherford March 30. The contribution was for the Kiwanis Club's annual Independence Day fireworks show at the Tullahoma Municipal Airport. (Photo by Jacqueline Cowan)

Today last day to enter Cruise-In vehicles

Today is the last day to enter vehicles for the AEDC Cruise-In happening May 11 in the ETF Annex parking lot.

So far more than 40 vehicles have been entered into the event, which is scheduled to take place from 11 a.m.-12:30 p.m. The list includes classic hot rods, motorcycles, muscle cars, boulevard cruisers and current generation performance cars.

Participation in the event is limited to current AEDC employees, including ATA and subcontractors. Any vehicle entered in the Cruise-In must be street legal and meet the requirements to be driven on base, such as proof of valid registration and insurance. They must be driven to work on the day of the event; no vehicles brought in on trailers will be permitted.

Each vehicle will be provided a dash plaque, and spectators will vote for their favorite vehicle, with a People's Choice award going to the vehicle with the most votes.

Cameras and photos will be allowed, but photographers should follow the center's rules on photography of prohibited facilities, hardware or materials.

The base's Sergeants Association plans to sell hamburgers and hot dogs at the event. Music will be provided by Ralph Elmore.

If you would like to enter a vehicle in the Cruise-In, contact Tom Parrish at Tom.Parrish@arnold.af.mil with a brief description of the vehicle.

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to help the Cowan Railroad Museum and to make it a better museum for people when they come through," Underwood said.

1st Lt. Brad Chronister, a project manager in AEDC's Investments Branch, put together the display for the exhibit, going through archive photos to find pictures and tools that represented how AEDC workers did their jobs in the early years.

Several Air Force personnel took time out of their work schedules at the center to speak to students who came through about how engineers and scientists used slide rules instead of calculators and computers, as well as how force balances were calibrated for use in the wind tunnels. The exhibit included photographs of work done at AEDC during the 50s and 60s, as well as a working

scale model wind tunnel, different measuring and calculation instruments and a working force balance display.

"The main focus of the exhibit was on people actually working," Chronister said. "So we tried to look away from the bigger test articles and infrastructure and tried to get down to actually seeing individuals work."

Some of the items on display even provided a little bit of a learning experience for the volunteers.

"Some of this stuff was new to me - especially the slide rule," said 1st Lt. Charmeeke Scroggins, a test project manager in AEDC's High Enthalpy Arc-Heated Facilities. "That was very new to me. I've grown up with calculators, so calculators and hand math was what I was used to."

Underwood said the AEDC dis-

play has been one of the children's favorites to visit at the exhibit.

"Brad did an excellent job putting it together," Underwood said. "He worked on it for a while, going through to see exactly what was available. I think it's wonderful."

She said the board is also glad that the center had its display staffed during the visits, so students could speak to someone familiar with the devices on display.

"We didn't know enough about that, so I'm so thankful that they send someone to give information to the children about what all is involved on the display," Underwood said. "That's really helpful."

Scroggins said several children came back to the display for a second visit to try out the different tools while she was working there, and she believes it was a good way

to show the fun side of the work done at AEDC.

"I think when kids see how things are cool and they're able put their hands on it ... they entertain themselves and just learn more, and I think that's sparking their interest in engineering, science and math," she said.

Chronister said he enjoyed putting the exhibit together and going through old photos of AEDC facilities that can still be found at the center today. He also hopes the exhibit generates more student interest in science and engineering-related career paths.

"People are always talking about how students today don't seem to want to go into the hard sciences anymore," he said, "and that's something we're hoping we can facilitate through something like this."

AEDC teams preparing for next month's Relay for Life

By Shawn Jacobs
Aerospace Testing Alliance

Plans are coming together for the 2012 Relay for Life, according to Dee Wolfe, education and training specialist at AEDC and coordinator of the base's involvement in the event.

This year, the Relay will be held May 18-19 at a new location, the Coffee County Administrative Complex in Manchester on Highway 55. The previous events were held at the Coffee County Fairgrounds.

Relay for Life consists of teams of people camping out and taking turns walking or running around a track. Each team is asked to have a representative on the track at all times during the event.

"When I arrived in October 2008, AEDC as a whole didn't know what Relay for Life was all about," Wolfe said. "I told my story of my battle with thyroid cancer and asked AEDC [employees] to come out and support me

and the American Cancer Society by joining a team at Relay for Life.

"In 2009, two AEDC teams showed their support and raised more than \$6,000. In 2010, AEDC raised more than \$10,000, and last year our teams raised almost \$8,000 for cancer research."

Wolfe said her life has been touched by cancer since she first told her story at AEDC.

"My Dad found out he had prostate cancer and went through treatment in 2009," she said. "Then in September 2010, I was once again told I had cancer and had surgery to remove it in October. Relay has meant a lot to me and my family since we first got involved in 2007, but each year it comes to mean more as cancer affects my family and me."

Relay starts at 6 p.m. Friday and ends at 6 a.m. Saturday. All team members do not have to be at the event the entire night. Wolfe said there will again be two AEDC teams represented



AEDC's "Remember" team at the annual Relay for Life April 29 consisted of Scott Tucker, Amber Wolfe, Shawn Wolfe, Dee Wolfe, Danita Harvey, Tanya Haggard, Donna Paredez, Bryan Larson, Rick Ferrebee and Kathy Swanson. (Photo provided)

this year: her team, "Remember," and the Department of Defense (DOD) Finance team, "Coins 4 a Cure."

Anyone needing more infor-

mation about Relay or interested in joining a team may contact Dee Wolfe at dee.wolfe@arnold.af.mil or 454-4313, Shawn Wolfe at shawn.wolfe@arnold.af.mil

or 454-7732 or Heather Fair at heather.fair@arnold.af.mil or (931) 454-4339. Individuals may also register online at www.relayforlife.org/coffeetn.

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be placed in a foreign lab for two years.”

He added, “I’m happy to talk to anyone who is interested in these programs, but my target audience is the 62 and 63 communities on the active duty side and their civilian counterparts. We’ve had some involvement with AEDC in the past, but there may be room to grow that.”

Regarding eligibility, CWP and ICR&D are available to DOD, active duty and contractor engineers. ESEP is available to DOD and active duty engineers only.

Tyler Neale, a Propulsion Wind Tunnel Ground Test Complex and Small Business Innovation Research (SBIR) project manager, said, “This was the first I had actually heard of all three of these programs, so I am still learning about them. However, based on my initial impression, these programs appear to be an

excellent way to interface with international partners and build valuable relationships that can prove mutually beneficial.”

Owen and Neale acknowledged some of the inherent challenges when working with foreign entities in an increasingly complex and uncertain economic and global security environment.

A recurring challenge to cooperative technological research and development work between the U.S. and its allies is the need to comply with the International Traffic in Arms Regulations (ITAR).

“It definitely is a challenge and folks have to realize that as they come into each of these programs, that [ITAR] is something they have to address, they have to bring a coherent security plan,” Owen said. “They [all parties] have to be willing to address any

security concerns, ITAR considerations, potentially proprietary information as well. So, there are a variety of different concerns that they bring but what we found is that the more folks do this stuff, the better they get at it.”

Neale agreed, saying, “As with any programs that require partnership and collaboration with other parties, team work and communication always pose challenges. The physical distance between the two parties could also affect communication. However, these challenges are easily overcome.”

They both agree that the benefits of these programs, including technological, economic and improved professional relationships, far outweigh the challenges.

“It appears these programs provide an abundance of opportunities [including] working closely

with foreign partners, gaining a different perspective on approaching problems, developing low TRL (technology readiness level) technologies by collaborating with researchers around the world, and even gaining a unique exposure to a different culture and country,” Neale said.

Ron Lutz, senior aerodynamic engineer at AEDC’s Propulsion Wind Tunnel Ground Test Complex (Technology Branch), said it is important to put Owen’s briefing into context.

“AEDC has not been very active in international programs in recent years until the Technology Branch began focusing on them as a means to bring in supplemental funding for planned technology efforts, starting in fiscal year 2009,” Lutz said. “A project for doing space chamber comparison testing for combined effects with Germany was awarded for fiscal 2012/2013 and a project for comparing flow

visualization techniques for transonic testing with Australia was awarded for fiscal 2013/2014, both under the SAF/IAPQ ICR&D Program.”

Lutz described tangible gains expected of the upcoming collaborative projects.

“The space chamber project will enhance the ability to correlate results within this technical community and support work planned for the new STAT (Space Threat Assessment Testbed) facility at AEDC,” he said. “The flow visualization project will provide needed verification and validation of the recently developed digital system, Background Oriented Schlieren (BOS), with traditional Schlieren.

“It is expected that this will enhance RBA (Reimbursable Budget Authority) income at AEDC because more customers will elect to use BOS during testing.”

Lutz said the three programs will provide engi-

neers at AEDC with several advantages.

“These programs allow access to additional funding streams, foreign technology and equipment, and personnel exchanges for technology transfer and experience building.

“Both AEDC and the coalition partner will benefit. We select project subject matter that directly supports the AEDC mission.”

Owen said the American taxpayer comes out ahead when eligible engineers take advantage of the three programs offered.

“Certainly the tax payers benefit because we’re saving money, but not only saving money,” he said. “The technology that we’re developing isn’t just done for the sake of research.

When folks apply for these programs, we want them to tell us what [technological] gap they’re addressing, what shortfall they’re going to overcome, and what it is that they’re going to deliver to the warfighter.”

SOIL from page 1

12.7 million gallons of groundwater in 66,700 cubic yards of soil.

“We went from percent levels of contamination down to low part-per-million levels of contamination as a result of the treatment,” Flatt said. “And that’s huge.”

TerraTherm’s method of removing the PCE was to insert electric energy heaters into the ground that heated up the soil to an average temperature of 217 degrees Fahrenheit. The PCE and contaminated groundwater were vaporized and brought to the surface, where the water was separated and the contaminants were destroyed through a thermal oxidizer. Before the leftover vapor was discharged into the atmosphere, it was run through an acid gas scrubber. The cleaned water was then discharged into AEDC’s retention reservoir.

“We have done some post-treatment sampling in the area, and we’re very pleased with the results of what we are seeing,” Flatt said.

The thermal remediation technology is so effective it’s getting attention around the world. TerraTherm recently was awarded a U.S. Agency for International Development contract to design a similar operation

at Da Nang Airport in Vietnam, which has hotspots with high levels of dioxin from the storage and handling of Agent Orange during the Vietnam War.

Because the majority of PCE at the center is gone and it’s no longer cost effective to continue with thermal remediation, AEDC workers are looking for more affordable means of dealing with the residual contamination. The Air Force Center for Environmental Excellence, through the Army Corps of Engineers, contracted URS Corporation out of Franklin, Tenn., to reestablish some site characteristics and help determine how much additional work may be needed at the site.

“We know that there’s residual contamination present,” Flatt said. “But we also have certain factors that we understand about the site with regard to attenuation time from the source to the spring discharges and outcrops. It’s likely that this source may never pose a risk to offsite groundwater in its present state. We’re trying to study and understand the remnant source regarding how much of a risk may exist.”

URS will be working to come up with possible actions for the next phase. Flatt said there are several

options on the table. Simply monitoring the site and using land-use controls to prevent digging into contaminated areas may be a viable option.

Pumping out groundwater and treating is also an option. Thermal remediation made more sense before, due to the large amount of contamination that was present.

“In comparison with the effectiveness of groundwater pump-and-treat, this removal was probably as effective as 200 or 300 years of pumping and treating, and ultimately removed more mass than we possibly could have through conventional pump-and-treat methodology,” Flatt said.

There’s also dual-phase extraction, which would entail extracting both liquid and vapor to clean out contaminants. Flatt said ATA is working with Jacobs Technology on a design for dual-phase extraction as a potential treatment option. That design would be ready for construction when URS is finished in two years.

Until an option is determined, AEDC will continue to monitor the site.

“A lot of work remains to be finished, but we are a great large step toward completion with this effort,” Flatt said.

F-22 from page 1

full life of an F119 is 8,660 TACs, which is equivalent to approximately 20 years of regular service in the field.

"This engine had already accumulated that many TACs and that equivalent time on it when it arrived here in June of 2011."

Walker said the benefits of an AMT approach to ground testing the F-22 Raptor's power plant are indisputable.

"We're trying to expand the tech order limits," he said. "In other words, if there's a tech order in the field that says you have to replace this part after so much time, because that's a calculation, but if we can prove that no, you don't need to replace it at this interval, you can wait until a longer interval. That saves the taxpayer a lot of money, because you're not replacing parts before they need

to be replaced."

2nd Lt. Carl Tegtmeier, AEDC's other Air Force project manager on the test, said, "This engine is still tested within its operational vibration limits, but it's purposefully put out of balance so you see what the worst type of allowable vibrations will do to the wear of the engine."

Walker said the most important reason for "testing before flight" can't be measured in dollars.

"It's a whole lot better to find out issues here on the ground than when it's on an F-22 and there's a pilot involved," he said. "You don't want to put the pilot in harm's way."

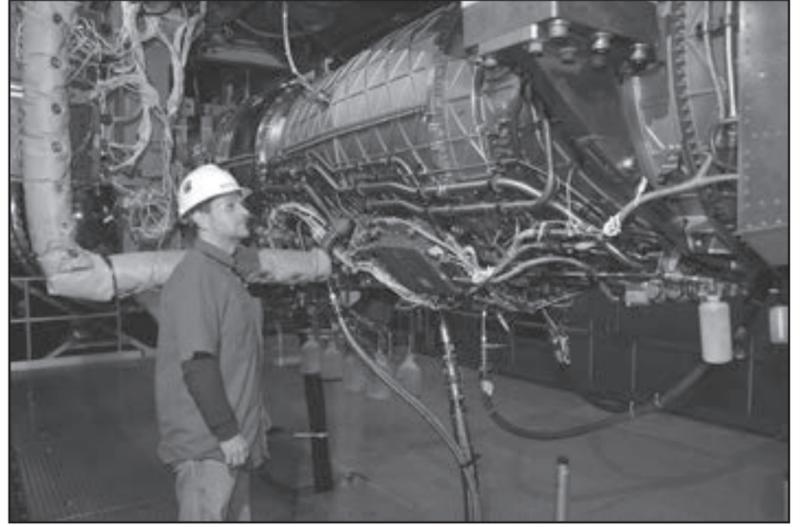
During an AMT test program, the engine undergoes a sequence of mission profiles designed to generate a specific number of TACs to simulate the operational wear it would experience

in the field. An AMT mission profile is a sequence of throttle, horsepower and nozzle vector movements and specific amounts of operating time at idle, cruise, intermediate and maximum power settings.

The F119 AMT program includes AMT mission profiles which are conducted at three types of test conditions: ambient, heated and RAM. To minimize cost, the majority of the AMT missions are conducted at ambient conditions.

The Sea Level SL-2 and SL-3 test cells were designed to provide all three types of AMT test conditions, having an operating mode for each. In atmosphere-intake mode, the air supplied to the engine is drawn directly from outside via the atmospheric intake.

In heated-intake mode, the air supplied to the en-



Scott Slabaugh, ATA project engineer on the test, inspects the F119 in AEDC's SL-2 after an AMT test run. (Photo by Rick Goodfriend)

gine is first drawn over a set of steam coils, via the Sea Level facilities' corrosion-air blowers (CAB), to set the desired inlet temperature. In RAM mode, pressurized, heated air is supplied to the engine from

the C-Plant air-supply compressors. This simulates conditions that the engine would experience as the pilot flies the aircraft low and fast.

Now that the test has concluded, the engine will

go back to the manufacturer, Pratt & Whitney, for a complete tear down, inspection and rebuild. The engine will return to AEDC later this year as a brand-new build for another cycle of AMT work.

FIRE from page 1

hose lines up stairwells. Operators can also inject theatrical smoke in the trailer.

The AEDC Fire Department is required to conduct live fire training to meet Department of Defense requirements. This is the first year they used the West Virginia University equipment, but they were pleased with the equipment and training.

"If you don't have it, then you lose it," said AEDC Fire Training Officer Jeff Thames. "You'll never forget everything, but the more training you have, the sharper your reactions."

Instructors said the trailer is capable of reaching temperatures of 1,500 degrees Fahrenheit before

automatically shutting down. It is also equipped with safety shutoff buttons inside, so the simulation can be stopped immediately in case of an emergency.

Ray Canafax, an adjunct instructor with West Virginia University Fire Service Extension, said AEDC firefighters performed well in the exercises.

"From what we can tell, these guys are very well trained and have a lot of years of experience throughout the crews," he said. "It gives them an opportunity to brush up on the skills they already have and get an experience that they may not get to see in a real situation in a real working structure fire for quite some time."



AEDC firefighters prepare to enter a smoke-filled room and put out a simulated kitchen fire March 27. The training unit from West Virginia University can simulate fires on multiple floors and uses theatrical smoke. (Photo by Rick Goodfriend)

CAC/military ID service outage next week

Due to a scheduled replacement of the Defense Enrollment Eligibility Reporting System (DEERS) Real-time Automated Personnel Identification System (RAPIDS) computer system, the visitor center will not be able to provide CAC or military ID card service April 24-25.

If you have a CAC emergency during this time, contact the visitor center at ext. 4010 for instructions.

This outage only affects military ID and CAC production. Other visitor center functions, to include base access for visitors, will not be affected.

ROY from page 2

foundation for making this happen.

Senior NCOs

Our most senior enlisted Airmen have a tremendous amount of impact on this process. SNCOs should hold their NCOs and senior Airmen accountable for conducting required feedback sessions, and support their fair ratings. SNCOs

should understand that a 4 is not a bad rating, and that some Airmen will earn that rating in a given period. Rating an Airman fairly will not hurt their career; it should help them grow.

Commanders

In addition to the email message I sent to chiefs, I sent a similar message to MAJCOM command-

ers, asking them to pass it down to their commanders. Because most of our reports are signed by a commander, I felt it was important that they understand where we're coming from. Commanders are the key and final component of this process, and their support for fair and accurate ratings is critical.

Bold Leadership

Some have suggested we set some arbitrary quota for the number of 5 ratings allowed in a given shop. They claim that would make things easier.

I'm not interested in doing what's easy; I'm interested in doing what's right. Implementing a quota would strip first-line super-

visors of the leverage they need to grow tomorrow's enlisted leaders.

We don't need quotas. Instead, we need bold leaders to set high standards and help Airmen achieve them.

We need bold leaders to confront those Airmen who don't meet standards and document that feedback. We need those bold lead-

ers to rate each individual fairly and accurately, and that isn't easy. They will need the support of SNCOs and commanders to make it work.

It takes bold leadership on everyone's part to develop Airmen.

Now is the time to do everything you can at your level to make this happen.

MTSU from page 3

to pursue a collegiate track career.”

Reinholtz, whose career at AEDC began in 2006, emphasized that she wanted to share her enthusiasm for engineering with the students attending the MTSU panel discussion.

“There’s never a dull moment in engineering, it’s always, ‘we can do this better, safer, greener, or more efficient,’” she said. “There are so many different ways that engineering can go.”

Reinholtz said she has actively sought out ways to help young people learn about engineering and the opportunities available. She has done this by taking part in National Engineers Week activities like the

Student Design Competition and Engineer-for-a-Day events at the Hands-On Science Center and AEDC for the past six years.

She and other AEDC engineers also went off base and took advantage of another mentoring opportunity.

“In October 2011, I participated in the Rocket Girl workshop at MTSU’s Expanding Young Horizons Conference, which is where I had the privilege of meeting Dr. Judith Iriarte-Gross. I expressed interest in getting more involved with STEM in the Murfreesboro area,” she said.

One of the big highlights of the recent panel discussion at MTSU with

the middle school students was discussing the serious challenges they face.

Reinholtz said the girls had asked about getting bad grades, getting in trouble and having a support network at home.

“The take away from this was don’t get discouraged, stay focused and it pays off in the long run,” she said. “All three of the panel members said we had gone through challenges and difficult times. But we all communicated to the girls that the rewards and outcomes have been worthwhile.”

Reinholtz said she owed her professional success to three factors, unconditional parental support, hard work

and a well-rounded approach to school and life in general.

“My parents gave me so many opportunities growing up, and for that I am grateful,” she said. “It makes a huge difference. There was never ‘you can’t do this or that.’ Their encouragement went a long way – and still does to this day.”

“I was always a really hard worker, involved in a lot of sports and activities, and constantly networking. It has made me a very well-rounded person.”

Reinholtz said since coming to AEDC she has wanted to get more involved in bringing more young people into engi-

neering and science.

“I want to get more involved in the STEM effort and target young ladies, because I never had these opportunities growing up,” she said. “A lot more girls would go into science and engineering if they were introduced to it at an earlier age. I’m trying to be a role model and demonstrate it is possible for women to be successful in the science and engineering career field.”

Reinholtz also attributes her own career success with gaining a skill set early in life that included learning to communicate and organize effectively.

Some of her peers have asked her why she is tran-

sitioning into project management.

“Don’t get me wrong, I love doing the science, math, and hands-on work,” she said. “I have developed a technical base and I have learned the fundamentals, but project management really takes engineering to the next level – of being able to communicate the ‘why.’ I enjoy that aspect.”

“If you present to the Commander and say ‘I developed a new code for this or a new laser-based technique to measure that.’ Why should our decision makers care? You need to not only know the ‘how you’re doing it’ but also be able to communicate why it’s important.”

Air Force seeks innovations during Earth Day campaign

By Jennifer Schneider

Air Force Center for Engineering and the Environment Public Affairs

LACKLAND AIR FORCE BASE, Texas (AFNS) – In its 42nd year, Earth Day provides an international opportunity every April 22 to voice appreciation for the planet and unite for a sustainable future.

Across the Air Force, installations are taking measures to enhance sustainability in support of the Earth Day theme “Conserve Today. Secure Tomorrow,” but Air Force leaders hope a campaign seeking new innovations will provide even greater results.

“I call upon every Airman to rethink how we approach waste in the Air Force,” said Terry Yonkers, the assistant secretary of the Air Force for installations, environment and logistics. “As the Air Force becomes leaner, we need to reduce the burden of waste disposal costs that impact our budget. Ask yourself what you can do to be a little greener and leaner in your workplace.”

To help emphasize the importance of individual efforts, the Air Force recently launched a “Blue Acts of Green” social media campaign, during which Airmen and their families are encouraged to commit to perform an environmentally friendly practice at home or work.

During the campaign from April 16-27, people can visit the Facebook site at www.facebook.com/blueactsofgreen to enter their “green” act.

Officials will monitor the inputs in search of in-

novations that can be put into practice Air Force-wide.

This year, the Air Force is highlighting pollution prevention efforts, as organizations look for ways to minimize waste and reduce operating expenses.

Air Force officials emphasize there is always more that can be done, and it takes a concerted effort from all members of the team.

Across the force, installations are taking aggressive strides to enhance sustainability and cut costs. Many endeavors involve modifying current processes to include innovative, environmentally friendly technologies.

The Air Force Research Laboratory at Wright-Patterson AFB, Ohio, is leading efforts to reduce the pollutants and heavy metals currently involved in stripping paint from Air Force aircraft. The robotic “de-painting” system uses a laser as an effective and environmentally safe alternative to existing processes, said Tom Naguy, senior program manager for environment and energy in AFRL’s materials and manufacturing directorate, who is overseeing the project.

While the Air Force has been working with laser and robotics systems for the maintenance of aircraft parts since the 1990s, the focus is now on systems that can handle entire aircraft, Naguy said.

Use of the technology has been estimated to reduce the number of hours

spent on the process by as much as 75 percent, he said.

In addition to the time and material savings, the process also generates only a fraction of the hazardous materials when compared to the traditional process, not only reducing risk to the workers involved, but also dramatically reducing hazardous waste disposal costs, Naguy said.

Strategic reuse of products and materials is another way the Air Force is trimming costs and controlling its waste stream.

Hill AFB, Utah, is implementing additional ways to save money and simultaneously reduce hazardous waste disposal. According to Guy Whalen, environmental representative for the Commodities Maintenance Group there, engineers have implemented solvent filtration systems that allow multiple reuse of cleaning solvents used for aircraft parts.

“There are acquisition cost savings associated with not having to purchase as much new solvent, which costs \$1,500 per 55-gallon drum,” said Debbie Hall, environmental scientist of the environmental pollution prevention team at Hill. “Being able to filter and reuse solvents also saves in not having to dispose of as much spent solvent, which costs \$350 per 55-gallon drum for each of the five solvent recycling units we have on base.”

The Air National Guard’s 187th Fighter Wing in Alabama suc-

cessfully conserved energy by recovering all of its contaminated JP-8 fuel for use in aircraft ground equipment, said Lt. Col. Elmer Norvell, base civil engineer there.

Even seemingly small changes can have a large impact.

Implementation of a moving box exchange service at Fairchild AFB, Wash., resulted in the reuse of six tons of moving boxes and a savings of \$5,000 for base personnel.

Substituting nonhazardous and environmentally friendly materials for hazardous ones is another way the service is going green. Such product replacements not only create a healthier environment for Airmen, but also reduce the need for hazardous material disposal.

For example, a conversion from steel brake assemblies to carbon brakes on KC-135 aircraft at Fairchild AFB led to a

reduction in hazardous waste. According to Senior Airman Kera Tracy, aircraft hydraulics system journeyman from the 92nd Maintenance Squadron, the pucks used in steel brake assemblies consist of many metals including arsenic, cadmium, lead, copper, zinc and selenium.

Some of these metals are very hazardous and can cause major health concerns in addition to environmental contamination.

“We discovered the impact the brake repair had on the environment when our mop water was tested and found to have high levels of cadmium,” Tracy said. “Our mop water then became hazardous waste and a program was made in the shop for proper disposal.”

Between 2005 and 2006, the base began the process to convert to carbon brake assemblies and now all of the KC-135s are equipped with the new

brakes, she said. “Because the plates on the carbon brakes are not made up of any heavy or toxic metals, they do not have such a hard impact on the environment,” Tracy said. “Since converting to the new carbon brake assemblies, our mop water has been tested and deemed no longer hazardous to the environment.”

Members of the 187th FW reduced their hazardous waste generation by 40 percent over the past two years through purchase of efficient pollution prevention equipment, product substitutions and process modifications.

For example, substituting vinyl stenciling for aerosol paints led to a decrease in hazardous waste and associated health hazards, Norvell said.

Visit the Air Force Earth Day website at www.af.mil/earthday.asp for more information, resources and tips.



Tyler Neale, left, a test project manager in AEDC's Propulsion Wind Tunnel Complex, described to 94 South Middle School students the amount of horsepower needed to produce 3,000-mph wind flows for a test in the center's large wind tunnel. (Photo by Rick Goodfriend)



South Middle School eighth grade students participated in a paper airplane hands-on-demonstration in April at AEDC's Minds in Motion educational tour. (Photo by Rick Goodfriend)



South Middle School eighth grade students visited an AEDC sea level turbine engine test cell during a Minds in Motion educational tour in April. Patty Stiggins (second from left), an Air Force test project manager with the center's Turbine Engine Ground Test Complex, explained to students how a small turbine blade operates within a turbine engine. (Photo by Jacqueline Cowan)



Lutrell Stuart, left, an ATA quality assurance evaluator in AEDC's precision measurement equipment laboratory, demonstrates to South Middle School students the properties of a vacuum using a bell jar. (Photo by Jacqueline Cowan)

Barksdale Airmen test alternative jet fuel

By Master Sgt. Jeff Walston
307th Bomb Wing Public Affairs Office

BARKSDALE AIR FORCE BASE, La. (AFNS) – Airmen here assisted the Air Force's Alternative Fuels Certification Program staff in evaluating a new jet fuel blend known as alcohol-to-jet, March 26-30, 2012 here.

Specialists from the Alternative Fuels Certification Division at Wright-Patterson Air Force Base, Ohio, and the TF34 Engine Program Office at Oklahoma City Air Logistics Center, at Tinker AFB, Okla., evaluated the fuel in TF34 engines used in the A-10 Thunderbolt II at the 917th

Fighter Group's test facility. The office of the Secretary of the Air Force officials directed the effort to certify alternative fuels for operational use on all Air Force aviation systems in an effort to reduce dependence on foreign oil.

The particular ATJ being evaluated is a 50/50 blend of butanol, an alcohol feedstock, and traditional JP-8.

In the future, the ATJ fuel could be produced from common, abundant cellulosic material like wood waste, grasses or cornstalks.

"Since late December

of (2011), AFCD has been evaluating the ATJ fuel properties, conducting materials compatibility and component rig testing in support of this TF34 test," said David Dickey, the AFCD propulsion lead. "Quite a bit of engineering work is performed on each fuel candidate before we would ask anyone to put in into an actual engine."

The testing at Barksdale AFB consisted of running the TF34 engine with JP-8 fuel to set parameters as a baseline for comparisons after the ATJ test.

Then the ATJ/JPS blend was run through the engines. Data was reviewed



Andrew Abdinor and David Dickey discuss the fuel testing process as a TF34 jet engine burns off an alternative jet fuel blend, known as alcohol-to-jet March 28, 2012, at Barksdale Air Force Base, La. They were part of a multi-unit group of active-duty and Reserve Airmen as well as civilian engineers who were testing the new fuel mixture for possible use by the Air Force. Abdinor is a TF34 equipment specialist assigned to the Oklahoma City - Air Logistics Center and Dickey is the propulsion lead for the Alternative Fuel Certification Office. (U.S. Air Force photo/Master Sgt. Jeff Walston)

and the engines were taken apart and checked by 917th Propulsion Shop jet me-

chanics for any indications of abnormal wear.

"We are especially interested in the high pressure turbine, (stage one and two)," said Master Sgt. William George, the 917th FG test cell supervisor. "We pulled the hot section and will be looking for damage or wear to the parts, but the aft of the engine looks like it runs clean."

Looks aside, detailed analysis of compiled data from the test will determine if ATJ fuel gets a clean bill of health for the next phase of on-aircraft testing.

"If the engine's performance is comparable using these diverse fuels, the TF34 Engine Program Of-

fice will recommend to the Alternative Fuel Certification Division that the fuel can be utilized for flight testing," said Andrew Abdinor, a TF34 equipment specialist. "But, the ATJ needs to perform as well as the JP-8."

All of these efforts support the Air Force's overall energy strategy to acquire 50 percent of domestic aviation fuel from alternative fuel sources by 2016.

Engine approval will clear the way for the next phase of the testing process – an A-10 flight demonstration using the ATJ fuel blend. This evaluation is scheduled at Eglin AFB, Fla., in May 2012.

Job Shadow Day



Marty Land, an ATA engineering technician in the Information Technology and System Department, shows son Dalton Land, a student at Tullahoma High School, updates being made to the All User Network during Job Shadow Day April 17. (Photo by Rick Goodfriend)



Logan Burt, a student at West Middle School in Tullahoma, reviews a Space & Missile Test schedule with father, Greg Burt, section manager in ATA's Integrated Test and Evaluation Department. (Photo by Rick Goodfriend)



Colt Seals, a student at North Middle School in Franklin County, calibrates a pressure transducer with assistance from father, Tracy Seals, an ATA instrument technician in the Test Assets and Support Department. (Photo by Rick Goodfriend)



Fred Wagnon, an ATA senior controls engineer in the Information Technology and Systems Department, gives daughter Audrey Wagnon, a student at Tullahoma High School, a brief overview of the controls upgrade for the Tunnel A Nozzle in AEDC's Von Kármán Gas Dynamics Facility. (Photo by Rick Goodfriend)



Ricky Davis, an ATA working foreman in the Test Assets and Support Department, shows daughter Courtney Davis, a student at Shelbyville Central High School, a maintenance work station used to troubleshoot Engine Test Facility Plant instrumentation and controls. (Photo by Rick Goodfriend)

Operation Never Forget helps memorialize fallen Franklin Co. soldier

By Philip Lorenz III
Aerospace Testing Alliance

On April 12, 2007, Sgt. Alex Stephens, an Army field medic assigned to the 2nd Battalion, 508th Parachute Infantry Regiment, 4th Brigade Combat Team, 82nd Airborne Division, Fort Bragg, N.C., died from wounds received during combat in Afghanistan.

On April 14, 2012, a coalition of individuals and organizations came together to honor Sergeant Stephens by dedicating an Operation Never Forget (ONF) bust to him at the Franklin County courthouse and by renaming a bridge in his memory.

"Alex Stephens was a young man who used to visit our house occasionally in high school," said Mike Cunningham, ATA human resources manager. "I have four daughters and he would come by the house with some of his friends and just hang out. I remember the young man, very witty, fun loving and very personable."

Cunningham said as time went by and other fallen Franklin Coun-

ty veterans were recognized, he felt Sergeant Stephens should get the same honor.

"I was struck when I heard of his death," he said. "So many people didn't pick up on that it was Alex Stephens who had gone to North Junior High School and graduated from Franklin County High School, but I knew it was him. I became very saddened by the event."

Cunningham then approached Dave Uselton, ATA's material control manager for logistics, to see about having a bust made of Stephens.

Uselton, who served in the Marine Corps and Army National Guard and is a ONF co-founder, started the fund-raising for the bust.

"The [artist] starts from scratch," Uselton said. "They start with just clay and mold that from a series of one-dimensional photos. It's a long, drawn-out process; it might take an artist a month, eight hours a day to do that."



Shalene Schmidt and David Stephens, the sister and father of Sgt. Alex Stephens, stand next to an Operation Never Forget bust of the fallen Army field medic who was honored in a ceremony in front of the Franklin County courthouse April 14. Stephens, pictured in his official duty portrait at right, was a native of Franklin County assigned to the 2nd Battalion, 508th Parachute Infantry Regiment, 4th Brigade Combat Team, 82nd Airborne Division, Fort Bragg, N.C. Mike Cunningham, ATA branch manager for human resources, who initiated the process to get Stephens recognized for his sacrifice and military service, spoke at the unveiling. AEDC Commander Col. Michael Brewer, Pat Eagan, ATA support services director, and Dave Uselton, ATA material control supervisor, also spoke at the event. Uselton is an Operation Never Forget (ONF) co-founder and is the ONF regional director. (Photos provided)



See BUST, page 10

Giving back to the community



Pre-algebra students at East Middle School in Tullahoma display the calculators that were purchased with donations provided by Aerospace Testing Alliance's (ATA) Employee and Community Activities Committee (E&CAC). Christy Hazelwood, East Middle math teacher, accepts the check from ATA E&CAC Chairwoman Christy Brunner. ATA is the operating contractor for Arnold Engineering Development Center and employs about 1,900 people. (Photo provided)

F-35 training center begins formal training at Eglin AFB

By Maj. Karen Roganov
96th Air Base Wing Public Affairs

EGLIN AIR FORCE BASE, Fla. (AFNS) – While celebrating each F-35 Lightning II arrival, the integrated joint strike fighter training team also recently opened the doors for the first Air Force certification courses on the logistical support behind the nation's newest weapons platform.

The 33rd Fighter Wing has eight basic familiarization courses now in session at the academic training center with courses currently scheduled through early next year. Approximately 100 maintenance students from three branches of service began the inaugural classes March 19.

"This is hugely significant for all services because we are getting our maintainers prepped for when we

are fully stood-up for F-35 training in the near future," said Col. Andrew Toth, the 33rd FW commander. "The classes are another exciting step forward in the 2012 execution year for F-35 training."

Every step has an effect on the future of these new programs.

"What we do now hinges on the progress of joint technical data verification for the F-35's maintenance procedures, virtual-reality trainer software validations and upgrades, as well as course delivery methods coming online," said Senior Master Sgt. Richard Brown, the F-35 ATC superintendent. "Up until this point, we've been conducting small group try outs with the integrated maintenance team here to verify the sys-

tem is meeting the requirements needed."

After the team's try-out process was completed, ATC personnel were able to offer Air Force students their first certificate of completion in F-35 courses for structures, avionics, weapons and crew chief career fields. Crew chiefs assigned to the wing already gained familiarization of flight line tasks and performed duties on the flight line associated with generating sorties.

Seasoned maintainers crossing over to the new aircraft platform were selected to attend the first classes. Marine Corps students hail from careers in ordnance, avionics, power line and airframes. To share the resources of instructors and trainers, the ATC runs two class shifts with schedules occasionally ending as late as 1 a.m.

"The pipeline students,



Tech. Sgt. Brandon Sullivan uses a portable maintenance device loaded with joint technical data that's plugged into an F-35 Lightning II trainer April 3 during a weapons familiarization course at Eglin Air Force Base, Fla. The 17-day course was the first weapons course completed since Eglin AFB's F-35 Academic Training Center began formal training Mar 19. Sullivan is an aircraft armament systems technician assigned to the 33rd Aircraft Maintenance Squadron at Eglin AFB. (U.S. Air Force photo/Maj. Karen Roganov)

those learning to be maintainers, are anticipated to train at the ATC early 2014," Brown said. "Most of the students going through will be instructors when they stand up field training detachments."

BUST from page 9

The total process takes approximately four to six weeks, from crafting the bust before it gets approval from family members or a guardian for casting in bronze.

"This [bust] is a way for the community to get involved with giving something back to the family," Uselton said. "Ninety-four percent of every dollar goes toward the bust itself."

Cunningham, Uselton, who is the ONF Southeast Region program director, and Kyle Grover, a long-time friend and family representative, teamed up with ONF to commission the bronze bust to memorialize the 32-year-old Franklin County native.

Before long, Aerospace Testing Alliance, U.S. Marine Corps League- Detachment 1128, Jim Maloney and Carol Hathorne of Jim's Sunset Bar and Grill, the Franklin County A.M. Rotary Club, the Franklin County Republican Leadership Committee, Marcia

and Rich Houchens, Carl Nystrom and Jerry Anderson had raised more than \$6,000 to pay for the bronze bust.

Sergeant Stephens is survived by his wife and daughter, along with his father and two sisters. He was a 1996 graduate of Franklin County High School and later graduated from UT-Chattanooga.

Franklin County Mayor Richard Stewart and Chamber of Commerce Executive Director Judy Taylor hosted the dedication ceremony on the courthouse lawn. State Sen. Eric Stewart gained legislative approval to name the Dry Creek Bridge in honor of Sgt. Stephens.

The bust will eventually be permanently displayed on the courthouse lawn alongside the busts of Pfc. Nathan Clemons, USMC and Lance Cpl. Gregory Posey, USMC, previously memorialized. Nathan's father, David Clemons, and Gregory's father, Steve Posey, also are employed by ATA.

At the ATC, students have access to computer simulators touting near-realistic interaction with the jet aided by a digital "avatar." Additionally, virtual training is provided on life-size mock-ups of F-35 components.

Lockheed Martin's F-35 platform includes the aircraft itself as well as the logistics and sustainment support systems, designed to keep each plane in the air and fully operational. Courseware is built using a flexible modular design, making it possible to train war fighters from three dif-

ferent services and eight international partners on three F-35 variants without creating multiple training suites of variant-specific hardware and software, according to Lockheed Martin's website. This total training solution lets trainees get immersed in the virtual experience before moving to the real thing.

Students currently enrolled are going through the phases of training designed by ATC personnel.

"The first week of training for all specialties is ba-

See **TRAINING**, page 12

Tinker AFB building new jet engine test cells

By Mike W. Ray

72nd Air Base Wing Public Affairs

TINKER AIR FORCE BASE, Okla. – Two more jet-engine test cells are under construction here.

According to Mason Hopkins, Engine Test Program Manager with the 76th Propulsion Maintenance Group, one of the structures will provide depot testing capability for the F135 engine, the power plant in the F-35 Lightning II jet fighter that is replacing the F-16 Fighting Falcon.

The “T-9” test cells also will be used to test F108-100 engines and F101-102 engines after they are repaired by the 76 PMXG, Hopkins said.

A construction company has already built the concrete pads on which the two test cells will rest, he said, and also is building a nearby 300-square-foot administration building, connecting sidewalks, an access road, a fuel supply system, utilities infrastructure and a parking area.

The T-9s will be “recycled” testing facilities previously used at other bases but no longer required at those locations. Consequently, they recently were dismantled and transported to Tinker. One came from the Aviano

Air Base in northern Italy, while the other came from Cannon AFB near Clovis, N.M.

Portions of both buildings have been refurbished, Hopkins said. For example, new acoustic pillows to absorb noise and heat from the jet engines have been replaced in the augmentor tube section of the T-9 from Cannon AFB, and several of the acoustic wall panels have been reconditioned.

Reassembly of the T-9s should be completed in June, and equipment and testing systems should be fully installed by the end of August, Hopkins indicated.

The prime contractor on the relocation and renovation project also is fabricating a special thrust frame, which braces the engines during testing.

Since standard T-9 adapters for F101s and F108s were unavailable, and new ones are expensive – \$2.5 million or more – Ron Morris from 76 PMXG Test Cell Engineering suggested having the contractor fabricate these specialized thrust frames in the T-9s. This allows 76 PMXG to utilize existing engine-specific adapters,



This T-9 jet-engine test cell at Aviano Air Base, Italy, was “retired,” disassembled and transported to Tinker Air Force Base, Okla., where it will be erected on a pad near a building on the base. (U.S. Air Force photo)

saving \$2 million, and helping standardize testing equipment, processes, procedures and maintenance, Hopkins said.

The contractor also will provide fuel delivery systems, air start systems and oil preservation systems for the test cells.

The two new structures are projected to be ready for engine tests sometime in 2013.

Another related project under way is an upgrade of the engine test operating system, which was developed internally by the 76th Software Maintenance Group. 76 SMXG will equip the T-9s with the

upgrade, Pacer Comet 4.

The new system provides fully automated data acquisition – information such as fan speeds, internal engine temperatures, fuel consumption, oil pressures and other performance standards – during engine tests, Hopkins said. Pacer Comet 4 also greatly improves data acquisition

accuracy and fidelity, increases test cell availability, and reduces labor and hardware costs associated with operating system sustainment, he said.

Tinker currently has 10 operational test cells, all of which are concrete structures.

Six of them are smaller cells that were built in

the 1950s, records show. Those cells are used to test repaired TF33-102C, TF33-103 and F100-220 engines, Hopkins said.

The other four operational cells were built in the early 1970s. Those cells are used to test F110s, F101-102s, F108s, F117, F118-100 and TF33-100 engines.

TRAINING from page 10

sically the same,” said Brian Vohl, a Lockheed Martin weapons instructor. “The desktop trainers, such as the Aircraft Systems Maintenance Trainer, require each student to follow the procedures of checking out virtual tools, reading the maintenance checklists and individually performing each task.”

After ASMT training, the students break off into their specific disciplines to train virtually at the ATC before heading out to the operational side of the wing where the fifth-generation fighter is housed with each service’s flying squadron.

“You can read about it all day, but you actually need a feel for the aircraft, work environment and know how the parts of the jet move,” said Staff

Sgt. Frantavious Dooley, a weapons crew chief assigned to the 57th Aircraft Maintenance Squadron at Nellis AFB, Nev.

The classroom experience combined with flight line operations are beneficial for learning about aircraft safety, in particular the warnings and precautions outlined in the joint technical, he said.

Classmates from Air Force flight test units will take lessons learned here home to implement F-35 sustainment at their units. Hill AFB, Utah, is slated to be a depot maintenance site and Nellis AFB and Edwards AFB are operational test sites.

“I like the process; the new approach is 100-percent compliant with learning tasks,” said Tech. Sgt.

Johnathan Meyer, an F-35 weapons instructor assigned to the 359th Training Squadron here. “Finishing off the comprehensive approach to training, the student gets aircraft hands-on training at an active flight line.”

Meyer said he attended the ATC weapons class to evaluate and lend feedback of the overall training program based on his five-year expertise as an instructor for Air Force maintenance technical training.

“When training is in full swing, approximately 2,100 maintainers and 100 pilot students can be processed through the ATC annually, with 900 people at any given time on campus,” Toth said. “Classes last from one to three months depending upon the course.”

TPS students analyze C-12 Huron rudder forces

By Laura Mowry
Edwards AFB Staff Writer

EDWARDS AIR FORCE BASE, Calif. – Karl Major, a civilian test pilot at the United States Air Force Test Pilot School, has been studying and flying the C-12 Huron for years. Over the years, he noticed an interesting phenomenon with the aircraft while experiencing sideslip.

Under certain conditions, the more the pilot would push on the rudder pedal to generate sideslip, the less the force the pilot would have to apply to get the rudder pedal to deflect. This was not intuitive and not a very desirable characteristic.

Hoping to learn more information about the force-lightening anomaly, Major tasked USAF TPS students to investigate the situation further.

“As students go through TPS, they learn the theory of how and why an aircraft behaves in a certain way. It is important to their education to understand how different aspects might affect the flight characteristics,” said Major. “In this case, TPS students will discover the C-12’s rudder force anomaly on recurring curriculum rides.”

With Capt. Chris Baughman leading the way, USAF TPS students Capt. Roman Underwood, Capt. Scott Rinella, Maj. Jesus Cosme, Capt. Carl Beckey and Singapore exchange student Maj. Bellamy Chia of Class 11B accepted the challenge for their test management project.

The project is the culmination of the students’ intensive year-long Masters Program at the USAF TPS.

According to David Vanhoy, USAF TPS technical director, completing the test management project presents unique challenges for students who must balance the successful completion of the project with meeting additional curriculum-based requirements.

“It’s truly amazing what our students are able to accomplish,” said Vanhoy. “And the SPINAL TAP folks are no exception.”

The test management project SPINAL TAP, short for Science Project in Aircraft Laboratory, Tufted Aircraft Panels, began last December as the team prepared to look into the phenomenon by using a flow visualization technique on

the C-12’s tufted vertical tail.

Tufting refers to the strings of yarn attached to the surface of the aircraft’s tail, which allowed the students to visually monitor their activity during flight, particularly when performing maneuvers that induced sideslip to the aircraft. This technique shows locations where the airflow is attached to the surface of the tail, where it has separated from the surface, and the general direction the air is flowing along the surface, all phenomena that are otherwise invisible to the eye.

“Looking at one subject in greater detail can be extremely valuable,” said Baughman, USAF TPS, SPINAL TAP project manager. “The safety of the C-12 rudder was never in doubt, but it is certainly an interesting characteristic and we were excited to have the opportunity to look further into it.”

Steady heading sideslips, rudder doublets, asymmetrical thrust, and the “Webster” flight test maneuver, created by the students, were used to induce sideslip while testing various airspeeds and aircraft configurations.

According to Baughman, the Webster flight test maneuver was named after the group’s technical advisor, Fred Webster who works with the 773rd Test Squadron at Edwards. The maneuver was designed to gather data that Webster built software to analyze.

Of the four maneuvers performed during flight, the steady heading sideslips turned out to be the most effective for gathering data.

“Normally as a pilot, I would continue pushing on the rudder pedal to get out to where I need to be,” said Baughman. “But, if I were to instantaneously push on the pedal to get a fixed amount of sideslip, then that’s where you start seeing the pedal force lightening in the C-12. The steady heading sideslip maneuver is the best way to see this happen since we’re taking snapshots at different angles of sideslip.”

Early on in the project, it became clear that there were physical challenges associated with the SPINAL TAP test management project. Performing steady heading sideslips required pilots to apply approximately 150 pounds of force on the rudder pedals



The test management project SPINAL TAP, short for Science Project in Aircraft Laboratory, Tufted Aircraft Panels, began last December hoping to investigate the phenomenon with flow visibility on a tufted vertical tail. Two sorties were videotaped from a C-12 chase aircraft, allowing the team to review data and visually identify how the tail of the aircraft responded during the various airspeeds and aircraft configurations. (Air Force Photo by Chris Neil)

See HURON, page 15

ATA safety manager speaks PMI chapter



Tennessee Army National Guard Lt. Col. Warner Holt spoke to the Chattanooga Chapter of the Project Management Institute (PMI) at their April 12 luncheon held at the University of Tennessee Space Institute. A veteran of two deployments – one to Afghanistan and more recently to Northern Iraq – Holt most recently served as the Commander of the Fires Squadron, 278th Armored Cavalry Regiment (ACR). During the deployment, his units executed more than 400 combat convoy escort missions in hostile military zones. Lt. Col. Holt is currently assigned as the Field Artillery Support Coordinator (FSCOORD) for the 278th ACR and is the safety manager for ATA. The Project Management Institute is internationally recognized as the largest association of project management professionals, with more than 500,000 members worldwide. For more information about PMI contact Doug Brown at (931) 454-5407. (Photo provided)

U.S., Malaysia air forces conclude exercise

By Master Sgt. Matt Summers
Cope Taufan 2012 Public Affairs

TUDM BUTTERWORTH, Malaysia (AFNS) – After completing more than 140 sorties and several hundred flying hours, the U.S. Air Force and Royal Malaysian Air Force concluded exercise Cope Taufan 2012 at the Royal Malaysian Air Force base here, April 13.

The Pacific Air Forces-sponsored, live-flying exercise, that included F-15 Eagles from the 67th Fighter Squadron at Kadena Air Base, Japan, and four different airframes from the RMAF, allowed U.S. and Royal Malaysian air force pilots to hone their skills in dissimilar basic fighter maneuvers, combat search and rescue, and dissimilar

air combat tactics for the first time.

“(Cope Taufan is) an important (military to military) engagement that binds our two countries together,” said Lee McClenny, the deputy chief of mission at the U.S. Embassy in Kuala Lumpur, who made his first visit here since assuming his current position in August 2011. “Your extreme hospitality and friendship furthers our long-term relationship and enhances our ability to work together,” he said during the closing ceremony.

Royal Malaysian Col. Suri bin Daud, the Cope Taufan 2012 exercise director, said the RMAF hopes to increase the scale of activities and training for future

exercises.

“All the planning of activities are a means to an end,” he said. “That end is the mutual understanding between our countries and our air forces. How we focus on our missions and how we support each other strengthens our mutual bonds.”

Hours before the closing ceremony, RMAF and USAF members traveled back to an orphanage in Kulim where one week earlier the combined team mixed and poured concrete for a multi-use sports court, which will be used for volleyball, badminton or a traditional Malaysian game, sepak takraw, and other sports.

The orphanage, in northwestern Malaysia, currently houses 50 children ranging in age from 10 to 17 years

old. The children are all orphans of former Malaysian armed forces members.

U.S. Air Force Airmen representing the 67th FS and 67th Aircraft Maintenance Unit, who were honored guests at a dedication ceremony for the new court, also got a chance to give gifts to the children, including two water cooling systems, various sports equipment and toys.

“We had such a fun time while you were here,” Nurhafiza Husna Binti Halim, a resident of the orphanage, said during the ceremony. “All of your kindness will be treasured close to our hearts.”

Air Force officials release draft EIS for F-35 operational basing

By Mitch Gettle
Air Force Public Affairs Agency

WASHINGTON (AFNS) – The Air Force has filed a draft environmental impact statement for the proposed operational basing of the F-35 Lightning II within the continental United States.

The current active Air Force and Air National Guard alternatives under consideration are: Burlington Air Guard Station, Vt.; Hill Air Force Base, Utah; Jacksonville Air Guard Station, Fla.; Mountain Home AFB, Idaho; and Shaw AFB/McEntire Joint National Guard Base, S.C.

“Candidate installations were identified through a deliberate process that began with a clear definition of training requirements and progressed through a screening process leading to the alternatives currently being considered,” said Kathleen Ferguson, the deputy assistant secretary of the Air Force for Installations. “The Air Force is analyzing the impacts of basing three squadrons of 24 aircraft each at the active duty location and one squadron of 24 aircraft at the Air National Guard location.”

Hill AFB is the Air Force’s preferred alternative for the active duty operational location and Burlington Airport is the Air Force’s preferred alternative for the Air National Guard operational location. A final decision regarding selection of an operational bed down location will be made upon completion of the environmental impact statement.

The F-35A is a fifth-

generation fighter aircraft designed with stealth, maneuverability and integrated avionics to assume multi-role missions. The Air Force views the aircraft integral to the future of strike aviation and to counter emerging anti-access/area denial threats.

“Our aging fourth-generation aircraft lack modern stealth technology and integrated avionics, and will become increasingly less useful against burgeoning adversary anti-access and area-denial strategies and capabilities such as air defense systems, radars, missiles, and aircraft,” Air Force Chief of Staff Gen. Norton Schwartz said. “As such, we remain committed to the fifth-generation F-35, which represents the future of tactical aviation for the Air Force.”

The draft EIS for the F-35A operational locations opens a 45-day public comment period. The Air Force will conduct 17 public hearings at locations surrounding the potentially impacted communities to receive oral and written comments on the draft EIS.

“The Air Force is committed to planning future activities while considering environmental and community impacts and minimizing them where practical,” she said. “A final decision will be reflected in a record of decision expected in the fall of 2012.”

The Federal Aviation Administration and the Department of the Navy are cooperating agencies in the EIS process.

HURON from page 13

for extensive periods of time throughout each of the six, two-hour long sorties.

“We quickly realized that flying these maneuvers turned out to be quite a workout,” said Baughman. “We decided to take two pilots on each sortie so that we could alternate and get a much needed break.”

Two of the six sorties were videotaped from a C-12 chase aircraft, allowing the team to review data and visually identify how the tail of the aircraft responded during the various airspeeds and aircraft configurations.

The team’s preliminary findings indicated that the anomaly is more subtle than the force lightening that Major and the students had originally thought.

“When we started the testing, force lightening showed up in the data right away,” said Underwood.

“However, as we continued testing, we started to see different results.”

The data also seems to indicate that aircraft configuration plays a much larger role in force change than airspeed.

“When we introduced flaps into the aircraft configuration, we saw more sideslip and more flow separation,” said Baughman.

With the flying portion of the project completed, the team will now focus on the data and aerial footage to identify the precise moments when the tufts on the aircraft tail indicate a change in flow characteristics.

The SPINAL TAP test management project team will present their findings to the USAF TPS in May before their graduation in early June.

“Their project was cer-

tainly an interesting one,” said Vanhoy. “It was truly a blend of modern and historical approaches to flight test. I can’t wait to see how their results turn out.”

According to Major, the results of the experiment will benefit future Test Pilot School students and could possibly even spark interest into further investigation of the force change anomaly of the C-12 Huron.

“The results of the tests will definitely be folded back into the curriculum for our students. In addition, the results could lead to further inquiries if new questions are discovered during the team’s analysis,” said Major. “The broader and deeper the knowledge base of our students, the better they will perform as airborne evaluators of new or highly modified aircraft.”

**Arnold Golf Course
454-7076**

Check us out on Facebook! Arnold AFB Services Golf Course

Spring Into Golf Special goes through the end of April. Pay \$26 and get 18 hole green fee, 18 hole cart fee plus hot dog and fountain soda – a \$35 value!

Arnold Golf Course Customer Loyalty Program

Purchase an annual green fee for the 2012 season and receive:

- 10 percent discount on Pro Shop merchandise
- 10 percent discount on Cart rental
- 10 percent discount on Driving Range tokens
- 10 percent discount on food/beverages at Mulligan's Coffee Bar & Grill

These discounts are good April 2012 through March 2013. Not valid in conjunction with the Members First Plus discounts. Maximum discount allowed is 10 percent. Sale items and alcohol are not authorized for these discounts.

New prorated Platinum fees for 2012 season. Arnold Golf Course has established a new tier of fees for the Platinum annual rates which includes unlimited green fee, cart and range balls. Pay upfront for these fees and save \$120.

	Individual	Family
Juniors	\$750	-
E1-E4, GS1-4	\$1,085	\$1,385
E5-O3, GS5-10	\$1,395	\$1,780
O4/GS11 & above		
and Contractors	\$1,620	\$2,070
Guests		
and General Public	\$1,685	\$2,155

Two Person 27-hole Triple Play Tournament has been scheduled for May 12 with an 8 a.m. shotgun start. The first nine holes will be two person scramble, second nine will be two person best ball and the last nine will be two person alternate shot. Play will be flighted into A and B flights. Handicaps will be used to determine which tee to play from. Entry fee is \$80 per team and includes breakfast buffet at 7 a.m. Green fee and cart fee are extra. Sign up in the Pro Shop by May 10.

**Arnold Lakeside Center
454-3350**

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

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 May 4 starting at 6 p.m. Come to play, listen, dance and enjoy. Join in with the band to play an instrument or sing. Or take over and do your own performance.

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

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

See Briefs, page H2

Miss AEDC Pageant to be held at ALC May 5

Youth Programs will host a Miss AEDC Pageant for ages 5-18 at Arnold Lakeside Center May 5.

The event is open to the public and will be held from 12-6 p.m. Cost to enter is \$25 and each division winner will receive a crown, sash and flowers. Second, third and fourth place winners in each division will receive flowers. All entries will receive a participation certificate. There will also be a People's Choice winner who will receive a goody bag and sash.

Divisions include Little Miss AEDC for ages 5-8, Preteen Miss AEDC for ages 9-11, Junior Miss AEDC for ages 12-15 and Miss AEDC for ages 16-18.

Participants will need to provide a copy of their birth certificate or driver's license upon registration to ensure entry into the appropriate division. Little Miss and

Preteen divisions will be judged on poise, beauty and personality. Junior and Miss divisions will be judged on poise, beauty, personality and onstage question.

Each participant is allowed one person backstage to assist in getting ready, but they must return to the front before the pageant begins.

Participants should arrive no later than 30 minutes prior to start time with hair and makeup complete. There will be a designated area for changing into dresses.

Cost to attend the event is \$5, and Arnold Lakeside Center will have a deli buffet for \$8 (\$5 for age 10 and under). Any attending may vote for the People's Choice winner for only \$1 per vote.

Deadline to enter the pageant is April 30. Enter by emailing Holly Jones (holly.jones@arnold.af.mil) or calling 454-3415.

Health and Wellness Expo returns May 23



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 (one 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.

Sign up for Members First Plus May 14-July 13 and the first three months are free

All who sign up for Members First Plus membership between May 14 and 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.

Administrative Professionals' Day special in Café 100 April 25

In honor of Administrative Professionals' Day April 25, Café 100 will be giving a Services 32-ounce thermal mug with all purchases while supplies last.

These mugs may be brought back to Café 100 and used for future soda purchases at the regular 16-ounce price of \$1.25. That's twice the product for the same low price.

This special is for all customers, not only administrative, so stop by and try a Starbucks coffee, slice of pizza, deli sandwich, salad or other selection and get your free mug.

Texas Hold 'Em Members Only Mini Tournament begins May 4

Arnold Lakeside Center will host a Texas Hold 'Em members only Mini Tournament every Friday in May.

Play will begin at 6 p.m. in The Landing bar. There is no cost to enter but all players must be age 18 or older.

Prizes will be awarded each week to first, second, and third place finishers. Tables will be created by random draw of the players present at starting time. Dinner is available from the Express or Pizza menu from 5-8 p.m.

ALC honors mothers with Mother's Day Brunch May 13

Arnold Lakeside Center will have a Mother's Day Brunch 11:30 a.m.-2:30 p.m. May 13. The menu will include scrambled eggs, bacon, sausage, ham slice, French toast with syrup, sliced turkey breast, stuffing, baby carrots, mashed potatoes and gravy. Cost is \$12 for members, \$14 for nonmembers and \$7 for ages 3-10. Reservations are required by May 2. All mothers attending will receive a rose.

"Membership Matters" Membership Campaign KickOff May 14 in Café 100

Café 100 will kick off the "Membership Matters" Membership Campaign with the official unveiling of new menu items to include deli sandwiches.

All base employees are eligible to use Café 100, and there will be combo specials all day during this event. Current Members First Plus members and new members that join this day will receive a free slice of single topping pizza as a special thank you for being a part of our membership program.

The café is open 6:30 a.m.-1 p.m. with pizza available beginning at 10:30 a.m. Stop by and take advantage of this membership benefit.

Don't forget to grab your copy of the new, improved and expanded Café 100 menu.

Outdoor Rec Expo comes to A&E Building May 17

Outdoor Rec will hold an Expo at Building 100 10 a.m.-1 p.m. May 17.

All base employees are encouraged to come by and see some of the items available for rent from Outdoor Rec. Some of the items include kayaks, canoes, windsurfer, pontoon, team building kit, rocket bounce inflatable, gas and charcoal grill, canopy, fishing poles and more.

Brochures with pricing and information will also be available. Be sure to register for door prizes. You do not have to be present to win, but all entries must be filled out completely to be eligible. Prizes may be picked up at a later date from Outdoor Rec.

May 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.

<p>May 3 – "Red Tails," rated PG-13 (2 hr. 5 min.) 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 World War II, are called into duty under the guidance of Col. A.J. Bullard.</p>	
<p>May 10 – "Man on a Ledge," rated PG-13 (1 hr. 42 min.) starring Sam Worthington, Elizabeth Banks and Jamie Bell. As a police psychologist works to talk down an ex-con who is threatening to jump from a Manhattan hotel rooftop, the biggest diamond heist ever committed is in motion.</p>	
<p>May 17 – "One for the Money," rated PG-13 (1 hr. 31 min.) starring Katherine Heigl and Jason O'Mara. Unemployed and newly-divorced Stephanie Plum lands a job at her cousin's bail-bond business, where her first assignment puts her on the trail of a wanted local cop from her romantic past.</p>	
<p>May 24 – "The Vow," rated PG-13 (1 hr. 44 min.) starring Rachel McAdams and Channing Tatum. A car accident puts Paige in a coma, and when she wakes up with severe memory loss, her husband Leo works to win her heart again.</p>	
<p>May 31 – "Journey 2: The Mysterious Island," rated PG (1 hr. 34 min.) starring Dwayne Johnson, Josh Hutcherson 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.</p>	



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 Haggard

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
 Membership Information – 454-3367
 Information Tickets, Travel – 454-3303
 Fitness Center (FC) – 454-6440
 Outdoor Recreation (ODR) – 454-6084
 FamCamp – 454-6084
 Marina – 454-6084
 Recycling – 454-6068

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

May 2012

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1	2	3	4	5
		ALC AEDC Woman's Club luncheon, 9:30 a.m. FC Cycling Class 11 a.m. FC Karate 3 p.m. FC Zumba 4:15 p.m.	FC Boot Camp 6 a.m. FC Pilates 11 a.m.	FC Cycling Class 11 a.m. FC Karate 3 p.m. FC Zumba 4:15 p.m. ALC Dinner & Movie Night "Red Tails" PG-13 dinner 5-8 p.m. movie 6:30 p.m.	FC Boot Camp 6 a.m. FC Piloga 11 a.m. ALC Italian Buffet, \$8.95 member, \$10.95 non, 4-9 p.m. ALC First Friday Jam, 6 p.m. ALC Texas Hold 'Em Members Only Mini Tournament, 6 p.m.	ODR Paintball 9:30 a.m.-2:30 p.m., age 10+, \$35, 454-6084 FamY Miss AEDC Pageant, 12-6 p.m., at ALC, age 5-18, \$25, 454-3415 ODR Archery Basics Class, 4 p.m., \$3, age 10+, sign up by May 2, 454-6084 ALC Pizza and To Go orders only
6	7	8	9	10	11	12
	FC Boot Camp 6 a.m. FC Cycling Class 11 a.m. FC Yoga 11 a.m.	FC Cycling Class 11 a.m. FC Karate 3 p.m. FC Zumba 4:15 p.m.	FC Boot Camp 6 a.m. FC Pilates 11 a.m.	FC Cycling Class 11 a.m. FC Karate 3 p.m. FC Zumba 4:15 p.m. ALC Dinner & Movie Night "Man on a Ledge" PG-13 dinner 5-8 p.m. movie 6:30 p.m.	FC Boot Camp 6 a.m. FC Piloga 11 a.m. ALC Prime Rib for Two, \$29.95 member, \$31.95 non, 4-9 p.m. ALC Texas Hold 'Em Members Only Mini Tournament, 6 p.m. FAM Y Jewelry Fair, Café 100, 8 a.m.-2 p.m.	GC 2 Person Triple Play Tournament, 7 a.m., \$80/team, 454-GOLF ODR Whitewater Rafting Trip, \$60, 8a.m.-5p.m., 454-6084 ODR Paintball 9:30 a.m.-2:30 p.m., age 10+, \$35, 454-6084 ALC Fried Catfish Plate, \$9.95 members, \$11.95 non
13	14	15	16	17	18	19
ALC Mother's Day Brunch, 11:30 a.m. – 2:30 p.m., \$12 members, \$14 non, \$7 age 3-10, RSVP by May 2, 454-3350	ALC Membership Drive begins "Membership Matters" Kick off event in Café 100 with specials and new menu items FC Boot Camp 6 a.m. FC Cycling Class 11 a.m. FC Yoga 11 a.m.	FC Cycling Class 11am FC Karate 3 p.m. FC Zumba 4:15 p.m.	FC Boot Camp 6 a.m. FC Pilates 11 a.m.	ODR Expo 10 a.m. – 1 p.m., by A&E bldg FC Karate 3 p.m. FC Zumba 4:15 p.m. ALC Dinner & Movie Night "One for the Money" PG-13 dinner 5-8 p.m. movie 6:30 p.m. FC Cycling Class 11 a.m.	FC Boot Camp 6 a.m. FC Piloga 11 a.m. ALC 50 cent Wings, 4-9 p.m. ALC Texas Hold 'Em Members Only Mini Tournament, 6 p.m.	ODR Paintball Tournament 10 a.m., age 10+, \$25 per person, teams of 4, 454-6084 ALC Express Menu only, 5-9 p.m.
20	21	22	23	24	25	26
	FC Boot Camp 6 a.m. FC Cycling Class 11 a.m. FC Yoga 11 a.m.	FC Cycling Class 11 a.m. FC Karate 3 p.m. FC Zumba 4:15 p.m.	FC Boot Camp 6 a.m. FC Pilates 11 a.m.	FC Cycling Class 11 a.m. FC Health and Wellness Expo 11 a.m. – 1 p.m. FC Karate 3 p.m. FC Zumba 4:15 p.m. ALC Dinner & Movie Night "The Vow" PG-13 dinner 5-8 p.m. movie 6:30 p.m.	FC Boot Camp 6 a.m. FC Piloga 11 a.m. ALC Meatball Sub w/ fries, \$5.95 members, \$6.95 non, 4-9 p.m. ALC Texas Hold 'Em Members Only Mini Tournament, 6 p.m. ALC Last Friday Trivia, 6:30 p.m.	FamY Armed Forces Kids Run, 8:30 a.m., age 5-13, 454-3277 ODR Paintball 9:30 a.m.-2:30 p.m., age 10+, \$35, 454-6084 ODR Basics of Lake Kayaking Class, 10 a.m. – 2 p.m., age 12+, \$10 ALC Stuffed Chicken Breast, \$8.95 members, \$10.95 non
27	28	29	30	31		
	FC Open 8 a.m. – 4 p.m., no group classes ALC Café 100 Closed	FC Cycling Class 11 a.m. FC Karate 3 p.m. FC Zumba 4:15 p.m.	FC Boot Camp 6 a.m. FC Pilates 11 a.m.	FC Cycling Class 11 a.m. FC Karate 3 p.m. FC Zumba 4:15 p.m. ALC Dinner & Movie Night "Journey 2: The Mysterious Island" PG dinner 5-8 p.m. movie 6:30 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 Saturday 10 a.m.-5 p.m. Marina by appointment only. Summer hours begin May 1: 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.-6:30 p.m. and Saturday 8 a.m.-4:30 p.m. The BX hours of operation: Tuesday through Friday 9 a.m.-5:30 p.m., and Saturday 8 a.m.-4:30 p.m. For more information contact Janie Warren, BX manager, at (931) 454-7153 or Jeff Lillard, Commissary manager, at (931) 454-3545.

AAFES Dividends

Dividends generated from the Army and Air Force Exchange Service (AAFES) overall earnings are a major contributor to Services nonappropriated fund (NAF) construction and renovation projects as well as equipment purchases. Services would like to thank all AAFES customers for their support. Dividends received for March 2012 totaled \$4,648.79.

Briefs from H1

Friday 4-9 p.m.
May 4: Italian buffet, \$8.95 member, \$10.95 nonmember.
May 11: Prime rib for two, \$29.95 member, \$31.95 nonmember.
May 18: 50-cent wings
May 25: Meatball sub w/fries, \$5.95 member, \$6.95 non-member.
Saturday 5-9 p.m.
May 5: Pizza and To Go orders only
May 12: Fried catfish plate, \$9.95 member, \$11.95 non-member.
May 19: Express

Menu only
May 26: Stuffed chicken breast, \$8.95 member, \$10.95 non-member.
Last Friday Trivia Contest is 6:30 p.m. May 25. 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

Pretty Discoveries returns for a **Jewelry Fair** May 11 in Café 100. The fair will be from 8 a.m.-2 p.m. and all jewelry is under \$20. There will be drawings for free jewelry. Pretty Discoveries also offers handbags and belts.

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

See Briefs, page H3

Briefs from H2

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 two weeks prior to start of camp and a separate application is required for each child attending. The weekly themes, activities and field trips are listed below. Contact Youth Programs for more information and to register.

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 Zooprize 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 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 falootin' 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 stu-

dents 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 A 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 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

Other events coming this summer:

Missoula Children's Theater, 16-20 July, "The Tortoise Versus the Hare" auditions Monday, rehearsals Tuesday through Thursday, performance Friday night; for those who have completed first grade through age 18; preregistration June 1-July 12; \$20 (\$5 discount for additional siblings)

Fitness Center 454-6440

Check us out on Facebook! Arnold AFB Services Fitness Center

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.

An Archery Basics Class will be held May 5 at 4 p.m. at Outdoor Rec for ages 10 and older. Cost is \$3 and deadline to sign up is May 2. There must be at least three to take the course and no more than ten. This class will teach the basics of archery including how to hold a bow 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.

Outdoor Rec trip set to Ocoee for **White-water Rafting** May 12 on the middle section of the Ocoee River. Running through the heart of the Cherokee National Forest, this is one of America's premier sections of whitewater with some of the wettest and wildest action around. The Ocoee River is great for beginners or the experienced rafter with over 20 continuous class III & IV rapids. The trip will leave at 8 a.m. and return approximately 5 p.m. and is for ages 12 and older. Cost is \$60 each per person and deadline to sign up is May 1. Remember to bring dry clothes to change into after rafting and money for food and beverages. No experience is necessary to enjoy the adventure of Ocoee River rafting on the World Class Ocoee River. The guides have the reputation of being some of the most experienced and best guides on the Ocoee River and take great pride in their ability to provide guests with an action-packed, fun-filled adventure. Ocoee River rafting will provide you with an experience you won't want to miss out on!

Paintball regular Saturday play is every weekend 9:30 a.m.-2:30 p.m., except third Saturdays now 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

Basics of Lake Kayaking Class will be held 10 a.m.-2 p.m.

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.

Come with Outdoor Rec and go **bird watching** 2-4 p.m. April 28. Meet at Outdoor Rec at 1:45 p.m., then travel to Crockett Cove, FamCamp and various boat docks to see what birds are with us every day during the warmer months. You may even get a chance to see our resident eagle! Get an education on the species of birds and find out the reason why they like this area. Make sure you bring binoculars so you can see as far as possible. You can make a list of the birds you see to learn what is in your area. Cost is \$8 per person and deadline to sign up is April 26. There must be at least five to take the adventure and no more than 14.

An Archery Basics Class will be held May 5 at 4 p.m. at Outdoor Rec for ages 10 and older. Cost is \$3 and deadline to sign up is May 2. There must be at least three to take the course and no more than ten. This class will teach the basics of archery including how to hold a bow 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.

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May 26. 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 10. Call to sign up by May 22 or for more details.

Basics of Lake Kayaking Class will be held 10 a.m.-2 p.m.

Outdoor Rec at 931-454-6084 for prices and information.

Teambuilding Facilitation now available through Outdoor Rec.

Book your team building event at least two weeks in advance and customize your activities to include leadership, communication, trust, conflict resolution and more. Our kit has 289 activities and can serve up to 120 participants. Large group challenges can accommodate up to 60 people. This equipment must be facilitated by an Outdoor Rec staff member and is not available for rent for private use. Department of Defense organizations may utilize the program for free. All others have the option of half day (4 hours) for \$50 or full day (8 hours) for \$100. Call to find out more information or book your team building event.

RV and Covered Boat Storage slots available.

Outdoor Rec has eight open slots available in the RV storage yard. Each slot is 30 feet long and 10 feet wide and rents for \$25 per month or \$250 per year. The covered boat storage has nine slots open. The boat storage slots are 40 feet long and 12 feet wide and rent for \$45 per month or \$450 per year. Both storage yards require proof of registration and insurance of item placing in storage along with a signed contract based on length of stay. Access to the storage yard will be granted at the time the contract is signed. Call for more details or to reserve your slot.

Outdoor Rec lowers prices on inflatables!

There is an assortment of inflatables for almost everyone's needs. We have a huge backyard obstacle challenge measuring 40'L x 10'W x 13'H, and a double lane jump slide for only \$150 per day. We also have a giant basketball hoop for \$30 per day and a Rocket Bounce House for \$75 per day. If you need a water slide then our 18-foot Double Drop Wet/Dry slide will be great for any event and is only \$150 per day. Please contact Outdoor Recreation at 454-6084 to make your reservation today!

Did you know you can rent boats from Outdoor Rec on Woods Reservoir?

Do you have a current boating certification from Outdoor Rec? All base employees are eligible to rent our boats. All you need is the Hands-On Boat Certification Class. Come by during the week any time 8 a.m.-4:30 p.m. to watch a boating video followed by a multiple choice test. Then sign up for the hands-on portion which is available Saturday and Sunday. This class costs \$20 and certification is valid for two years. Once certified, you have a choice of pontoons and ski boats. Accessories available include life vests, ski rope harness, ski rope, knee board, wake board, water skis, tubes and paddles. Other rentals available from the Marina include canoe, kayak or windsurfer (certification class not required). Reservations for boat rental may be made 15 days in advance for active duty and 10 days for other eligible individuals. Call today to get on your way to fun in the sun on the lake. Call

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AEDC Woman's Club 393-2552

The AEDC Woman's Club will meet at 9:30 a.m. May 1 at Arnold Lakeside Center. This will be the last meeting until after summer. It will be one remembering our past and the past of the area. Blossum Merriman will talk about the history of the area and go from table to table asking people what they particularly remember about the past. As was custom many years ago, please come dressed in your hat and gloves.

Make reservations by contacting Liz Jolliffe at 393-2552 or JAJolliffe@aol.com, Jane Ricci at 962-1378 or dickanjane@comcast.net or Lucie Miller at 723-2054 or lj-rdmiller@charter.net.

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

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

