



HIGH MACH

Serving the World's Premier Flight Simulation Test Center



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AEDC's Tunnel 9 team implements major facility upgrade

By Philip Lorenz III
Aerospace Testing Alliance

A short break during a busy time at the Hypervelocity Wind Tunnel 9 facility at White Oak, Md., has provided an opportunity to replace the facility's 30-year-old transformer.

"After a successful test series for missile defense and in advance of a multi-year test campaign for the Conventional Prompt Global Strike (CPGS) capability, we've shifted gears to an all-out effort to make a much needed improvement to our power transformer," said Jeff Waldo, chief engineer at Tunnel 9. "Our transformer is literally the heart of this facility. Replacing it is crucial and presents a tremendous challenge considering what a busy year we've had with an even higher test load scheduled for this year.

"This transformer is a massive device, much like a Lionel train controller, that will ultimately provide clean power to our 1.5 megawatt heater. As Dan Marren, our site director has said, 'failure here is not an option.'"

Marren said, "This upgrade is overdue. We need to guarantee our facility's reliability and performance now to tackle the next few years of record testing for a high priority DOD customer."

To make sure everything gets done, including the record workload, teams at Tunnel 9 are wasting no time. Ground work on the transformer upgrade, including pouring concrete and erecting fencing, has already begun.

Marren said the upgrade has been a team effort on a project that began three years ago.

"Jeff Waldo, our chief engineer at Tunnel 9, was the winner of the William M. Dunne People's Choice Award for the first quarter 2010, and for good reasons," Marren said. "Waldo was recognized for finding creative ways to maintain mission effec-



From left, Dan Marren, the director of AEDC's Hypervelocity Wind Tunnel 9 at White Oak, Md.; leads a ground-breaking ceremony with Tom Smith, project manager with Mack Mechanical, Inc., Tenn., Jeff Waldo, Tunnel 9's chief facility engineer, and Steve Grant, Tunnel 9's electrical systems engineer, marking the installation of a new transformer at the facility. (Photo provided)

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AEDC-led collaborative effort results in safer, 'green' alternative fluid for turbine flow measurement calibrators

By Philip Lorenz III
Aerospace Testing Alliance

With an uncertain economy and the possibility of deep cuts to national defense budgets looming on the horizon, it seems that good news is hard to find.

However, Dr. John Wright, the National Institute of Standards and Technology Fluid Flow Facility Group lead, is optimistic about the future.

A recent NIST Fluid Flow Facility-hosted workshop on turbine meters and hydrocarbon liquid flow measurement included a consensus to promote replacing toxic and flammable calibration liquids with benign ones.

"The decision to shift away from hydrocarbon-based fluids used in turbine meter calibrators to propylene glycol and water is a milestone that will have a significant impact on improving safety, protecting the environment and saving money," Dr.

Wright said.

AEDC's Precision Measurement Equipment Laboratory, the Air Force Metrology and Calibration (AFMETCAL) organization, Army Test, Measurement and Diagnostic Equipment (TMDE) programs and the other representatives did more than advocate for this fluid change at the conference.

It was a collaborative effort between all of these organizations that made such an impactful decision not only possible, but with the support and backing from NIST, doable.

NIST is the federal technology agency that works with the Department of Defense (DOD) and industry to develop and apply technology, measurements and standards.

Dr. Wright said AEDC, like the Army, Navy, other Air Force ground testing facilities and industry, have faced the same challenge of finding a workable replacement for hydrocarbon-based calibrator

fluids for decades.

Most laboratories that calibrate turbine meters for jet fuel applications have switched to Stoddard solvent, a surrogate that is less toxic and flammable than actual fuels.

"We've wanted to stop using it [Stoddard solvent] if possible because it irritates some people and may be toxic and harm the environment, it's flammable and has a lot of downsides," Dr. Wright said, "but it's better than jet fuel."

James Winchester, an AEDC PMEL senior metrology engineer, emphasized that AEDC took a different route to find a safer, less costly and greener alternative to jet fuel and never switched to Stoddard solvent to use in flow meter calibrators.

He said the significance of flow meter calibration needs to be understood before

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Wolfenbarger

President nominates next AFMC commander

WRIGHT-PATTERSON AIR FORCE BASE, Ohio – When the leadership of Air Force Materiel Command changes later this year, the command will be led by a familiar face who will make Air Force history when she takes the reins of AFMC.

On Feb. 6, President Barack Obama nominated Lt. Gen. Janet C. Wolfenbarger to the rank of general, and as the next commander of AFMC. She will succeed Gen. Donald J. Hoffman whose retirement was also announced. A change of command date has not yet been announced.

If confirmed by the Senate, General Wolfenbarger will become the Air Force's first female four-star general and will return to familiar surroundings at AFMC.

"I am humbled and honored to have been nominated by the president to the rank of general and to serve as commander of Air Force Materiel Command. I look forward to participating in the Senate confirmation process when the time comes. At present, I remain focused on

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Matty retiring after 30 years at AEDC

By Patrick Ary
Aerospace Testing Alliance

For Jere Matty, working at Arnold Engineering Development Center was a perfect fit. He literally saw the writing on the wall on his first day.

The wall was a stall in a bathroom at the von Kármán Gas Dynamics facility. The writing was a differential equation someone had been working on.

"At a pilot training base there's stuff written on the wall, but it's not differential equations," Matty laughed. "It wasn't a joke. It was for real. It turns out this is just a great place for engineers. That was my first introduction to Arnold."

Now, after 30 years at AEDC, Matty has seen new writing on the wall. This time, the wall is in his Space and Missile Ground Test Complex office, where he has served as deputy director since 2006.

The writing says it's time to retire.

"I'll probably go into culture shock after coming out here for 30 years," Matty said. "Sometimes I'm driving in the car and I end up out here. I wasn't even thinking about coming out here, I just kind of drive out here. So that might happen."



AEDC's Space and Missiles Complex deputy director Jere Matty is retiring after 30 years at AEDC. (Photo by Rick Goodfriend)

Matty, whose last day is Feb. 24, has made the drive out to AEDC since 1981. Before he was assigned here as a project engineer for the Reentry Systems Testing Branch, he attended the U.S. Air Force Academy and served as a T-38 Talon flight training instructor at Reese Air Force Base,

Texas. The change in scenery came after a medical issue prodded him down a career path that utilized his engineering degree.

Matty didn't come alone – his wife Rosemary, who had been working in the

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HIGH MACH

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

**Core Values**

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

**Vision**

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

Core Values

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

Ride the resiliency slopes all the way down

By Capt. Cary Tolman

Air Force District of Washington Judge Advocate

WASHINGTON (AFNS) – Life is like a ski slope.

Life has smooth parts, bumps, turns, and sometimes even icy patches. Every person on that hill needs to find a way down, no matter what his or her experience level is in negotiating the terrain. Some people are better equipped to tackle the large bumps while others are content to try to avoid them. Some people are not at all equipped to handle the terrain and prefer to take their skis off and slide down the hill. No matter the ability level, every person on that mountain needs to get down the hill.

Like the ski hill, we all have obstacles in our daily lives. It's part of life. Like the ski slope, those obstacles can range from a difficult boss, an accident on the beltway that makes us late for work, or an argument with our spouse. These are the ordinary day-to-day stressors that we all deal with as part of our everyday lives. At times, those day-to-day stressors give way to more significant,

sometimes traumatic events that can have devastating and long-lasting effects on us, such as the death of a loved one, a serious illness or the stresses associated with combat.

The mechanism we use to deal with the more distressing events that life throws at us is called resiliency. Resiliency is the ability to work within the face of adversity and come out stronger on the other side. It is the ability to bounce back from difficult or traumatic experiences. Resiliency is a skill set developed during the course of life that includes thoughts, behaviors and attitudes employed when dealing with stressful situations.

Not everyone reacts to trauma in the same way. According to the American Psychological Association, the most important factor in resiliency is having caring and supportive relationships both inside and outside the family. Additional factors associated with resiliency include the capacity to make realistic plans and carry them out;

having a positive view of yourself and confidence in your strengths and abilities; possessing communication and problem-solving skills; and the capacity to manage strong feelings and impulses.

In its pamphlet, "The Road to Resilience" (<http://www.apa.org/helpcenter/road-resilience.aspx>), the APA recommends 10 ways that we can build resiliency. Here are a few of those skills and how we can relate them to our everyday lives.

1. Accept that change is a part of living. There are events and circumstances in life that are beyond our control, no matter how hard we try to make it otherwise. By accepting that changes in our lives must occur as a result of an event or circumstance outside of our control, it frees us to concentrate on those objectives and goals that are within our control. Additionally, it encourages us to set new goals for ourselves to keep in line with the change.

2. Keep things in perspective. It is important to try to keep stressful or traumatic events from being blown out of proportion, even when we feel that

the pain or stress is never going to end. By employing a long-term view to situations and putting them into the context of a bigger picture, it can provide a greater perspective on the situation. As the old sayings go, "time heals all wounds" and "this too shall pass."

3. Maintain a hopeful outlook. By being optimistic about your future, you become empowered to believe that the best is yet to come. One way to achieve this is to try and visualize what you want your future to look like and then set reasonable, attainable goals toward that future. Even when it's hard to visualize an end to the pain of the event, maintaining a positive, healthy outlook is a small step toward helping to ease the burden.

4. Take care of yourself. Participate in activities that you enjoy doing, whether it's going to the gym, taking a walk in the woods or getting a massage. Taking care of yourself physically and emotionally is another way to help keep your mind and body healthy so that you are prepared to cope when adversity strikes. Exercising is a great way to ease stress,

as is taking a walk through nature or doing something nice to treat yourself. Good physical health lends itself to good mental and overall health.

5. Resiliency also requires flexibility and balance in life as you deal with the emotional roller-coaster that comes along with stressful and traumatic events. There are many resources available to help us fill our boxes with tools to ease the pain of traumatic situations. These resources include the chaplain, support groups, books, on-line resources and mental health providers. There are even resiliency applications for smart phones available both for purchase and for free. Each of these resources offers varying degrees of support along with varying degrees of professional expertise and help in building our resiliency tools.

Whether you face the slopes of life head on or you slide down the hill, the point is to reach the bottom of the hill. With the right resources and approach, even the sliders can someday become the triple black diamond skiers, bumps and all.

Super Bowl moment relative to Airmen today

By Maj. T. Allen Herriage

2nd Combat Camera Squadron

HILL AIR FORCE BASE, Utah – At the risk of committing the journalistic sin of cliché in my commentary, I'll use the recentness of the Super Bowl to justify my use of a sports analogy to illustrate my point. Every year when I watch the big game, I remember my favorite play of all time and hope for a similar moment that would so greatly influence me that I would remember it decades later. It didn't come during New York's defeat of New England, but the game did give me cause to reflect on what I consider one of the greatest moments in Super Bowl history.

Some sports fans might raise an eyebrow if I told them this play was made by a member of the Buffalo Bills against the Dallas Cowboys during Super Bowl XXVII. The main reason for the raised eyebrow would be the score. Dallas crushed Buffalo 52-17. Still, it was the spirit of one player during that thumping that I try to emulate every day.

By the time the fourth quarter came around, it was clear Dallas was going to be the victor. If the scoreboard didn't communicate the inevitable, the players' demeanor surely did. The Cowboys players were smiling, giddy at their ability to continue to put points on the board while denying the same to Buffalo. The Bills players' heads hung low. They walked back to the bench instead of running. They were beaten and

they knew it. But the score didn't matter to one player.

Don Beebe, a wide receiver for Buffalo known for his speed, was moving down the field when back at the line of scrimmage, Buffalo fumbled the ball. Dallas Defensive tackle Leon Lett then picked it up and started a 64-yard run that looked to have only one possible result: a touchdown. Meanwhile, Beebe, already at the opposite end of the field waiting on a pass that would never come, turned around and bolted towards Lett. He was so far away from the fumble, he wasn't even in camera coverage – until the very end.

As Lett crossed the ten-yard line and closed in on what would have been a Super Bowl record of 58 points, he decided to celebrate. Instead of keeping the ball tucked in tightly, he extended his arm and held the ball out for everyone to see as he cruised toward the end zone. Now, remember I said Don Beebe was fast, well, Leon Lett didn't know how fast. Within a few steps of the end zone, Beebe came out of nowhere and slapped the ball out of his hand denying the touchdown and embarrassing the Cowboys.

What makes Beebe's effort so amazing to me is that no one would have noticed and few would have cared if he didn't make the play. After all, he was at the other end of the field, the game was unwinnable and Dallas had already scored 52 points...what would

another six really mean? Beebe couldn't just let it go though. The problem was, HE would have noticed. HE would have known if he didn't give his all, if he didn't at least try. Don Beebe was a professional in the truest sense of the word.

What makes this relevant to Airmen is that we call ourselves professionals. Whether we're a pilot or a communicator or a medical technician, we like to think of ourselves as professionals. And we should – we're in the greatest Air Force the world has ever known. Doesn't the mere fact that we've "made the team" confer on us the title of professional? No, not really.

Leon Lett, was a professional by similar standards. He was a superb player on a championship team. But during the most important game of the season, and perhaps his career, he quit giving it his all. Don Beebe, on the other hand, tried his absolute hardest until the very end even though he knew his team wouldn't win.

Today we're in what could be considered the fourth quarter of Operation Enduring Freedom, a conflict that will define many of our military careers. Much of the public thinks the war is already over. We've been at it so long many have forgotten why we went to war in the first place. But, as Airmen, we do know. And if we don't give it our best to the very end, we'll know that too. We must remind ourselves that win or lose, we are professionals.

AEDC tax office open

The 2011 income tax filing season has arrived. The Tax Office at Arnold Engineering Development Center (AEDC) Legal Office, on Arnold AFB, Tennessee, is ready to help eligible clients file individual federal and state income tax returns using the IRS's Volunteer Income Tax Assistance (VITA) program.

Eligible clients are active duty service members, guard and reserve service members on Title 10 orders, military retirees, and the dependents of those persons. AEDC DOD civilian employees (and their spouses when filing jointly) are eligible clients on a space-available basis.

Tax assistance appointments are currently available now until the federal filing deadline of April 17.

Eligible clients may call the AEDC Legal Office at (931) 454-7814 to schedule an appointment. Tax Office personnel are trained and certified by the IRS VITA program to the Advanced and Military levels.

Tax Office personnel can assist clients in filing 1040, 1040A, and 1040EZ returns and many associated forms and schedules. However, Tax Office personnel cannot prepare complex returns, such as those associated with substantial going business concerns,

complicated capital gains and losses, and other services falling outside the scope of IRS Publication 4012.

Eligible clients should access and print their W2s from the MyPay website at <https://mypay.dfas.mil/mypay.aspx> and gather all other related documentation before arriving for an appointment.

Military members and their dependents wanting to do their own taxes may utilize Military One Source's free federal tax preparation and e-filing program available at www.militaryonesource.com. The website allows military tax filers to utilize a free online version of H&R Block At Home for federal returns. A fee may be required for state returns.

If you prefer to file your federal taxes using paper forms, forms are available on-line at www.irs.gov. Many states' forms are online as well.

Forms are often also available at local public libraries.

For those not eligible for Tax Office services, the IRS VITA program is available in many local communities. To locate those IRS VITA sites, please call the IRS at 800-906-9887 or visit <http://irs.treasury.gov/freetaxprep/>.

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

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

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

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

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.

AF 2013 budget: Cuts while keeping agile, flexible, ready force

By Tech. Sgt. Richard Williams
Air Force Public Affairs Agency

WASHINGTON (AFNS) – The Air Force released its fiscal 2013 budget Feb. 13 and stressed the need for difficult budgetary cuts to meet the new defense strategy while maintaining the service's agility, flexibility and readiness.

The Air Force is requesting \$154.3 billion in the president's 2013 budget, a reduction of five percent from the \$162.5 billion the service received in fiscal 2012.

"The Air Force made some very difficult choices," said Maj. Gen. Edward L. Bolton Jr., the deputy assistant secretary for budget. "But it was our priority to tightly align with the new strategy and also stay within the fiscal environment as a result of the realities we are facing economically."

The Air Force Strategic Choices and Budget Priorities paper, released by Secretary of the Air Force Michael Donley and Air Force Chief of Staff Gen. Norton Schwartz on Jan. 27, calls for streamlining of the force, making it smaller and more efficient with care to not create a hollow force.

Under the Budget Control

Act, the Department of Defense is required to reduce expenditures by \$487 billion over the next 10 years with a reduction of \$259 billion over the next five.

"It is worth noting that our budget has reduced by 12 percent in real terms since FY09," Bolton said. "So we have seen a consistent trend of reductions in the budget."

"The Air Force budget portion of the Budget Control Act reductions over the next five years is \$54 billion."

The Air Force's portion is not a result of simply dividing responsibility between the services. Instead, the budget amount is strategy driven, while maintaining a properly equipped force with the ability to deter, deny and defeat an opportunistic aggressor in a combined campaign any time, anywhere, he added.

"The strategy requires a different force structure and different tools; the Air Force is realigning the total force to address the future," Bolton said.

The service has drawn down many times in the past, but never as a nation still at war. Previous size reductions focused more on maintaining force structure, which left the Air Force with a hollow force, he said.

"It is really about balancing risk among the themes of force structure, readiness, modernization and taking care of our people," Bolton said. "We have sized the force to the strategy within the fiscal constraints we are facing."

The Air Force is looking at a nearly \$3 billion reduction in procurement cost because the service divested and is purchasing less hardware.

Also, there is a reduction of about \$500 million in research, development, testing and evaluation, but the Air Force continued its focus on modernizing key components that will maintain the service's technological edge, Bolton said.

"Funding for intelligence, surveillance and reconnaissance and space remain a priority," he added. "We will continue to develop programs in ISR ensuring we are supplying this skill set to the joint warfighter and coalition partners."

According to Bolton, funding also remains in place for the F-35 Lightning II Joint Strike Fighter – the centerpiece for future modernization to be able to prevail in contested environments.

"Ensuring fiscal goals are met

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Maj. Gen. Edward L. Bolton Jr., the deputy assistant secretary for budget with the Office of the Assistant Secretary of the Air Force for Financial Management and Comptroller, provided details on the service's fiscal 2013 budget at a Pentagon press briefing Feb. 13, 2012. Bolton stressed the need for difficult budgetary cuts to meet the new defense strategy while maintaining the service's agility, flexibility and readiness. (U.S. Air Force photo/Staff Sgt. Tiffany Trojca)

2012 Engineer-for-a-Day event provides chance to give back

By Philip Lorenz III
Aerospace Testing Alliance

This year National Engineers Week takes place Feb. 19–25. During one of the local area activities, Engineer-for-a-Day, engineers at AEDC will host and mentor area high school students at the world's largest complex of flight simulation test facilities Feb. 22.

AEDC's involvement with this activity goes back to the 1960s. It is a mentoring activity that resonates for three of AEDC's younger engineers. Two of them also were once among the students visiting AEDC on that day.

Now it is their turn to take on the role of mentors to a new generation of young people who are considering an engineering career.

In 1996, Casey Schewe, a Franklin County High School junior, attended an Engineer-for-a-Day event sponsored by the University of Tennessee Space Institute (UTSI). Schewe, who is now ATA's oil analysis program manager, said he didn't know much about AEDC at the time.

His father, Maynard Schewe, who is an ATA (formerly with Sverdrup) IT (instrument technician) in turbine test cells, had been at Arnold since 1979. However, for Casey, "It was some-

thing we just didn't discuss."

Regarding his Engineer-for-a-Day experience, Schewe said, "It really helped open my eyes to what an engineer can do. One of the projects they had going at UTSI at the time was taking chicken manure and turning it into a fuel – the roles engineers play in that process is pretty significant. Plus I was trying to figure out how to get it done on a small scale and then [take it] to a larger scale where you could actually do something profitable."

Schewe added, "We also got to look at some of the real powerful lasers they had out there, things like that really impress you when you're a kid. You get to see where the rubber meets the road where engineering is concerned."

Schewe said looking back, he realizes his father also taught him engineering basics.

"Dad liked to work on vehicles with us and helped teach me how to get my car running when I turned 16," he said. "There are IT (information technology) and problem-solving skills – he taught me how to troubleshoot a circuit and make sure everything had good connections."

Schewe, who holds a bachelor's degree in chemical engineering, said he had always leaned toward engineering.

Engineer-for-a-Day has al-

lowed him to explain the opportunities engineering can provide.

"I participated last year and we had the opportunity to bring some of the kids in who were interested in something outside of aeronautics and mechanical and electrical engineering, a lot of the traditional careers we have out here. I got to answer a lot of questions and show them some of the things I'm involved with, like the oil processing facility."

"I explain the science behind how we get the water out of the oil. And it's always eye opening for children to realize you can actually boil water at a lower temperature than it boils normally on the stove. Seeing the science applied to something practical, tends to open eyes."

Schewe said, "Most children don't really seem to understand the broad applications engineering has."

John McInturff and his wife, Carrie, are both engineers at AEDC.

Carrie, ATA's STAT (Space Threat Assessment Testbed) project engineer, first came to AEDC 14 years ago when she was a Coffee County High School junior or senior.

"As a young person, I didn't realize the kind of asset that we, the community, have here at AEDC until I was able to see it

firsthand," she said. "It was eye-opening to see the types of testing and research and development that engineers are privileged to be a part of."

Armed with a bachelor's degree in electrical engineering from Tennessee Technology University nine years later, she remembers the engineer who showed her around AEDC on that day.

"Jerry Bailey was my mentor for Engineer-for-a-Day," she said. "I was able to get some hands-on experience using CAD systems while here for Engineer-for-a-Day. This sparked an interest in design and modeling and pushed me toward the engineering field."

Bailey, ATA's utilities manager for steam, potable water and wastewater, was a maintenance reliability engineer when he showed McInturff where he worked.

"Most students in high school just simply don't know what to pursue in college," he said. "The thing that scares off most students is the math."

"It's more important to show that engineers don't just sit around and work math calculations. The job can be fun and rewarding for those with a mechanical aptitude. Also it is important to show that engineers are in high demand and can go into many areas of interest."

"Most students are only taught theory from books which can really be boring. However, with somebody willing to take their time to talk to the students about their interests and try to show them some work at AEDC along those lines could inspire a future engineer that eventually becomes "ATA Team Member of the Quarter" like Carrie. I hope she pays it forward."

Carrie, who has participated in Engineer-for-a-Day since joining AEDC's work force, said, "I hope they were able to see that engineers can take on very different roles like project engineers, test engineers and instrumentation, etc. For anyone interested in math or science, there is a place for them in the field of engineering – no matter their interest."

John McInturff, ATA's energy program manager, oversees the energy conservation aspects at AEDC.

He took part in Engineer-for-a-Day at AEDC when he was a Coffee County High School senior in 1994.

During high school, he also helped on his family's farm and worked construction jobs.

"I had to work on tractors and take things apart, and figure out why they broke," he said.

See **ENGINEER**, page 8

AFMC, AFGE union officials reach labor agreement

WRIGHT-PATTERSON AIR FORCE BASE, Ohio – Senior leaders from the American Federation of Government Employees Council 214 and Air Force Materiel Command have completed negotiations on a new master labor agreement that will affect approximately 35,000 of the command's civilian employees.

Scott Blanch, AFGE Council 214 president, and Gen. Donald Hoffman, AFMC commander, signed the agreement in a ceremony here Feb. 2.

Last negotiated in 2002, the master labor agreement is a contract between AFGE Council 214 and AFMC that governs matters affecting bargaining unit employees' working conditions. Negotiations for the new agreement were led on the union side by AFGE Council 214 President Blanch and on the management side by John Steenbock, AFMC Director of Manpower and Personnel.

After just 15 days at the table, the two sides concluded negotiations in record time.

According to command officials, the new master labor agree-



Scott Blanch, American Federation of Government Employees Council 214 president, and Air Force Materiel Command Gen. Donald Hoffman discuss command updates before signing a new master labor agreement here Feb. 2, 2012. The master labor agreement is a contract between AFGE Council 214 and AFMC that governs matters affecting bargaining unit employees' working conditions. (U.S. Air Force photo/Ben Strasser)

ment represents a management and labor culture that thrives on cooperation, teamwork and a "people first" philosophy.

To allow time for transition, the new agreement will not go into effect until April 1.

This will also give union and management officials time to

complete printing and distribution of the new agreement.

Employees included in the AFGE Council 214 bargaining unit who will be impacted by the new agreement are located throughout AFMC including Air Force Metrology and Calibration in Heath, Ohio; Arnold

AFB, Tenn.; Edwards AFB, Calif.; Eglin AFB, Fla.; Hill AFB, Utah; Kirtland AFB, N.M.; Robins AFB, Ga.; Tinker AFB, Okla.; and Wright-Patterson AFB, Ohio.

AFGE Council 214 employees at Hurlburt Field, Fla., will also be affected.

AEDC Fellows nominations due March 23

AEDC is currently accepting nominations for the 2012 Fellows Program with submissions due no later than March 23.

Established in 1989, the Fellows program recognizes AEDC individuals who have made substantial and exceptionally distinguished technical contributions to the nation's aerospace ground testing capability at AEDC.

Since the inception of the program, AEDC has bestowed the center's highest honor to a grand total of 72 individuals (Fellows, Lifetime Achievement Fellows and Honorary Fellows).

AEDC Fellows nominations may be submitted by any present or former AEDC government or operating contractor/subcontractor employee. All current or retired military, civilian and operating contractor and subcontractor personnel assigned or previously assigned to AEDC can be considered candidates for selection as an AEDC Fellow. Candidates quali-

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FLUID from page 1

explaining what led to the consensus to switch fluid used in the calibrators.

“At AEDC, the most important application of turbine flow meters is [for] testing the turbine jet engines that are used on military aircraft,” he said. “We do lots of performance testing [at AEDC] at lots of different conditions. Fuel flow rates and fuel consumption is a very important parameter for that testing.

“You can see how efficient the engine is at converting the thermal energy that’s derived from combusting this fuel, to mechanical thrust.”

Dr. Wright said the aerospace industry and DOD use NIST calibration services for hydrocarbon liquid flow to ensure agreement and quality of measurements of jet fuel flow and hydraulic oil flows.

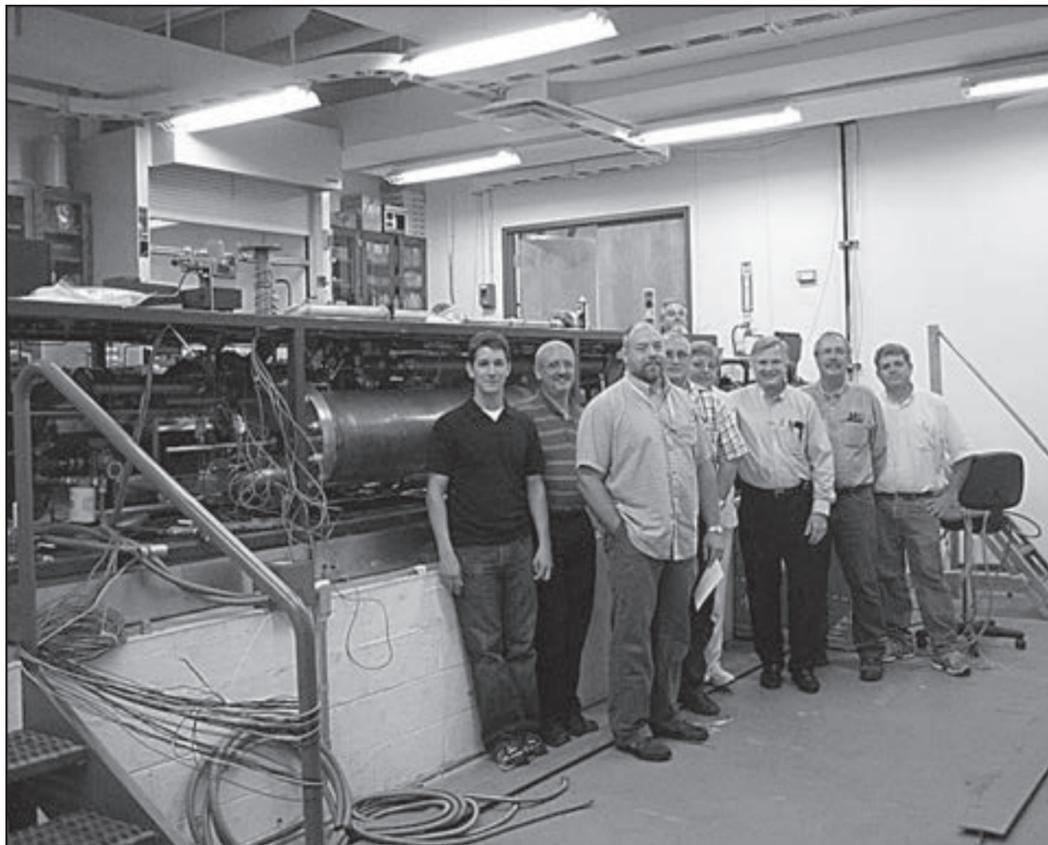
AEDC and these other entities require accurate flow measurements to evaluate jet engines on test stands, actuators for ailerons on airplanes and turrets on tanks.

“Accuracy is critical,” Winchester said. “This is where [our] Precision Measurement Equipment Laboratory (PMEL) comes into play. PMEL provides traceability to NIST. That’s our number one job, to provide accurate calibrations with traceability, all the way back to NIST.

“By having traceability to NIST we then have international traceability as well, because NIST and other national metrology institutes regularly inter-compare to maintain agreement with each other. This is important because we have foreign customers who bring measurement systems to our test facilities that have been calibrated against foreign standards. Any disagreement with our measurements would raise doubt in test data.”

AEDC PMEL engineers pioneered and implemented the propylene glycol and water combination as a surrogate fluid for the fuel flow meter calibrators.

Jeremy Latsko, AFMETCAL’s chief of mechanical engineering sec-



From left to right: Jeremy Latsko, U.S. Air Force Metrology and Calibration; Russell Kauffman, U.S. Army Primary Standards Laboratory; Wes England, U.S. Army Primary Standards Laboratory; Michael Vickers, U.S. Army Primary Standards Laboratory; Judy Burden, U.S. Army PD TMDE; John Ball, UAH and U.S. Army PD TMDE; James Winchester, Aerospace Testing Alliance, Inc., and Joel Davenport, University of Tennessee Space Institute, pose for a group photo during a joint services group meeting adjacent to the turbine flow meter calibrator loaned to AEDC by Vandenberg AFB, Calif., (official designation is PCLCE-350) July 7, 2009. (Photo provided)

tion, learned about AEDC PMEL’s transition to the benign calibrator fluid approximately seven years ago during a liquid flow conference held at Hill AFB, Utah.

Winchester and Latsko knew other DOD entities would benefit from this change, but those other organizations would have to test it in their own calibrators and inter-compare the data with everyone involved in the testing to validate its use beyond the Air Force.

AEDC PMEL and AFMETCAL had initiated an over-arching Calibration Coordination Group (CCG) project to accomplish several objectives, with the overall goal of finding “next generation” turbine flow meter calibrators. These new calibrators would be able to monitor thermal instabilities and be better suited for use with propylene glycol and water. The end goal is to ensure the availability of robust turbine meter calibrators that provide accurate, NIST traceable readings.

Over the past several years a working relationship has been forged between the AEDC PMEL; the U.S. Army Product Director Test, Measurement and Diagnostic Equipment (PD TMDE) and the U.S. Army TMDE Activity (USATA) that has proven to be mutually beneficial.

“We had been working with James Winchester and the folks up at Arnold, previously, on other projects, not flow projects, and just through conversations it turned out that we learned that they were working on this CCG project that was very closely related to what we were looking at,” said John Ball, formerly the Army TMDE director and now their consultant and principal research scientist at the University of Alabama at Huntsville. “We became interested when we discovered that the Air Force (AEDC only) was already using propylene glycol and water to simulate fuel. We were [already] looking at studying the effect of using surrogate fluids instead of hazardous fluids for cali-

brating turbine flow meters in the Army.”

Latsko said the Army’s interest and support on the work underway, especially on the benign fluid, had a multiplying effect on drawing additional support for the effort.

“That’s where the Army came in,” he said. “That’s where the joint part comes in; this project was already underway through these research funds, for the thermal instabilities.”

Latsko said the Army’s support for switching to food-grade propylene glycol and water for the turbine flow meter calibrator was the catalyst needed to gain wider acceptance.

“The Army came in and really pushed that, which was great, because [this] food-grade propylene glycol, it’s extremely safe,” he said. “The Army was a big part of making that happen and bringing that up to our national lab, NIST, who actually had made some conclusions about it being acceptable. Thanks to the Army’s interest in this, it really changed the conversation.”

Ball said the work with AEDC’s PMEL is ongoing.

“The project will continue for another year, just data gathering at the Army Primary Laboratory and then they’re going to be continuing correlations between us and the Air Force Lab,” Ball said. “At the end of the time we’re hoping to be able, at least to a large extent, to replace hydrocarbon calibrations for turbine flow meters in the Army with propylene glycol and water, [which is] non-toxic, non-explosive [and] good for the environment.”

Judy Burden, senior engineer with the Army’s Product Director for TMDE and Calibration Sets (Calsets) at Redstone Arsenal, said joint service projects make good sense fiscally and technically.

“It’s been a great pleasure working with the Air Force group and we look forward to working with them in the future on other projects,” she said. “[We’re] trying to find more projects that are triservice, to get more bang for the buck for all of the

services and looking for those projects to pursue because money is so hard to come by in this tight economy.

“By doing something that gets the government three or four times its money’s worth certainly is the way we have to go. And we are [working] toward that and I am personally willing to champion.”

Winchester said that working with the Army PD TMDE/flow metrology team and AFMETCAL has proven to be an excellent approach.

“There is synergy amongst the team members and all have contributed,” he said. “Testing and data inter-comparisons between the Army, AFMETCAL, NIST and other labs are ongoing to refine our understanding of turbine flow meter response mechanisms and performance limitations.”

Counterparts at the Navy Primary Standards Laboratory (NPSL) have also been kept current on the collaborative work leading to the recent consensus (at the NIST-hosted conference) to switch to propylene glycol and water for turbine meter calibration.

David Giesenschlag, with the Navy Primary Standards Laboratory’s (NPSL Mechanical Metrology/Calibration Branch, said, “At NPSL we have been watching the progress and discussions involving the implementation of propylene glycol and water in our test stands with much interest.”

Giesenschlag said although it is premature to say what course the Navy will take, his group wants to talk about AEDC PMEL’s experience using propylene glycol and water.

“We’re seeking some ideas on what to do and what not to do, advantages and disadvantages, test stand prep and modifications needed for fluid change over, cleaning and preparations of flow meters after the calibration, propylene glycol and water supply sources, and any other recommendations that might be beneficial to fast tracking,” he said.

AFMC from page 1

the important Air Force acquisition work I’ve been charged with,” General Wolfenbarger said.

Before taking over her current position as the military deputy in the Office of the Assistant Secretary of the Air Force for Acquisition at the Pentagon, General Wolfenbarger served as vice commander of AFMC from December 2009 to September 2011.

In making the announcement on behalf of Secretary of Defense Leon E. Panetta, Pentagon Press Secretary George Little said, “The secretary strongly supports the president’s nomination, and he believes that General Wolfenbarger is an outstanding Air Force officer. The fact that she would be the first woman to wear a fourth star in the Air Force, if confirmed, is a testament to her skills, experience and dedication.”

The Beavercreek, Ohio, native is a 1980 Air Force Academy graduate and member of the first class with female cadets at the Academy. She holds master’s degrees in aeronautics and astronautics from the

Massachusetts Institute of Technology, and in national resource strategy from the National Defense University.

General Wolfenbarger began her career in acquisitions as an engineer at Eglin Air Force Base, Fla. She has held a variety of assignments at headquarters Electronic Security Command and Air Force Systems Command, one of the predecessor commands to AFMC.

The general has held several positions in the F-22 System Program Office at Wright-Patterson AFB, Ohio; served as the F-22 lead program element monitor at the Pentagon, and was the B-2 system program director for the Aeronautical Systems Center, Wright-Patterson AFB.

She commanded ASC’s C-17 Systems Group, Mobility Systems Wing and was the service’s director of the Air Force Acquisi-

tion Center of Excellence at the Pentagon, then served as director of the headquarters AFMC Intelligence and Requirements Directorate, Wright-Patterson AFB.

She has been awarded the Distinguished Service Medal, the Legion of Merit, the Meritorious Service Medal, the Air Force Commendation Medal, the Air Force Achievement Medal, the National Defense Medal and the Global War on

Terrorism Medal.

General Wolfenbarger received her third star in December 2009 and became the Air Force’s highest-ranking woman in January 2010.

General Wolfenbarger would become the military’s second female officer to receive four stars behind Army Gen. Ann E. Dunwoody, commander of Army Materiel Command, who was promoted to general in 2008.

General Hoffman has led AFMC since November 2008. Before coming to AFMC, he served as military deputy in the Office of the Assistant Secretary of the Air Force for Acquisition at the Pentagon. His Air Force career spans nearly 38 years. General Hoffman is a command pilot and master parachutist with more than 3,400 flying hours. He’s flown the F-16, T-37, T-38 and C-12 aircraft.

Contracting program expands civilian deployment opportunities

WRIGHT-PATTERSON AIR FORCE BASE, Ohio – Air Force Materiel Command's Directorate of Contracting recently developed a new program to select junior contracting civilians for deployment opportunities to U.S. Central Command's area of operations.

The Junior Civilian Deployment Program was created to enhance professional development among junior contracting specialists, as well as reduce the deployment rate of military contracting personnel.

Patsy Reeves, director of contracting for AFMC, said that the program ben-

efits the entire workforce. "This program provides a win-win for both the military and civilian workforce," she said. "It reduces the operations tempo of our military contracting personnel, while providing a great learning experience for our civilians."

Historically, the Air

Force has supplied more than 65 percent of contingency contracting officers to support combatant commander's requirements, which have resulted in high operations tempo for Air Force contracting officers during the past 10 years.

Ruth Ann Ijames, who

served as the chief of contracting policy in Iraq in 2006 and 2007, said that her deployment experience was unparalleled.

"I learned more in the two years I was deployed than I learned in the previous 20 years," she said. "We saw acquisitions we would never encounter

otherwise and we saw a difference on the ground as a direct result of our efforts."

Stel Kirbabas, chief of the Workforce Development Branch at AFMC's Aeronautical Systems Center, said the Junior

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BUDGET from page 3

and fleet modernization continues are only half of the goal in the new strategy," said Bolton. "Taking care of Airmen and their families is a key component and cannot get lost in talking of mere numbers.

"We are reducing the force by 9,900 Airmen, which will reduce the end strength of active duty, Guard and Reserve to around a 501,000 total force," he said. "This allows us to appropriately size the force structure to the strategy and hardware we are going to have in the inventory."

The Air Force is proposing a 1.7 percent military pay raise in fiscal 2013 and a 4.2 percent raise in basic allowance for housing and 3.4 percent raise in the basic allowance for subsistence

as a continuing growth of compensation for service.

"We are budgeting more than \$700 million for family programs including child and youth programs and child development centers," Bolton said. "We will continue to take care of our folks; we just need to ensure it is being done efficiently under tighter fiscal constraints."

Housing is a key ingredient to taking care of Airmen and the Air Force is close to reaching its goal of 53,000 privatized housing units force-wide with over 40,000 units in place and the remaining units to be ready in fiscal 2013.

"We've increased our family housing budget by \$93 million and this will allow us to meet our goal," Bolton said. "Completing

this transition is important because we have found through privatization we are able to increase the quality of housing for our Airmen and their families."

Looking back to the 2011 requirements – military action and support in Iraq and Afghanistan, supporting NATO missions in Libya, along with humanitarian support to Japan following a major earthquake – Bolton reinforced the reach and responsibility placed on today's Airmen and emphasized the importance of providing them the tools required for a versatile force.

"We will continue to do everything we can to provide them with the tools they need to continue to be the best Air Force in the world for decades to come," Bolton said.

ATA donates to school program



The ATA Office of the General Manager (OGM) made a donation Feb. 2 to benefit the Computer Aided Drafting program at Coffee County Central High School in Manchester. Christy Brunner, a project administrator in ATA's Project and Design Engineering Department, presented the check on behalf of the OGM to Jon Spears, Coffee County Central High School drafting instructor. (Photo provided.)

UPGRADE from page 1

tiveness. He stepped in and has led the contracting effort for delivering the upgraded control room and redesign of the Tunnel 9 power transformer.

"Jeff is also frequently called to operate systems critical to the facility operation while maintaining his daily tasks."

Steve Grant, the electrical systems engineer at Tunnel 9, said to appreciate the importance of the upgrade, it helps to understand what a power transformer does.

"The unit that's being replaced was built about 1965 by General Electric. It's known as an Inductrol

and effectively was like a big variable transformer," he said. "It converts 13,800 volts AC (alternating current) down to [approximately] 150 volts AC – we're talking about a lot of power – in the neighborhood of a megawatt and a half.

"That power is applied to our nitrogen process heater that is used to heat up the nitrogen in a storage vessel. Then the nitrogen is brought up slowly in our heater cycle to the proper pressure and temperatures as high as 3,400 degrees Fahrenheit and 22,000 psi (pounds per square inch).

That gives the fluid to

the proper conditions so that when we blow the tunnel, we can reach the conditions that will allow us to test up to Mach 14 or whatever particular requirements are for that test."

Grant explained why the upgrade is overdue.

"The Inductrol is essentially a large variable transformer with lots of moving parts such as rotating windings that are turned by a DC motor," he said. "It is also filled with oil to keep the windings cool. Over the past few years, testing of the cooling oil has revealed high levels of dissolved combustible gases that oc-

cur when electric arcing is happening.

"The electrical arcing inside the transformer could lead to a catastrophic failure which would end Tunnel 9's testing capability until another system could be brought on line. Unfortunately, repairing the unit was not an option as the know-how and ability to work on such a unique piece of equipment has been retired for some time. Also, similar power sized units are just no longer made."

Grant said it helps to understand why Tunnel 9 is such an important national asset.

"We've tested all kinds of different systems here for mainly DOD, but also for industry and NASA, including the Mars Science Laboratory and [more recently] the Orion capsule," he said. "We've done some recent testing on the hypersonic test vehicle, Missile Defense Targets and other critical systems that have gone to flight."

Marren added, "NASA can test in their facilities and did, but for what we provided them, they could not get anywhere else. This involves mainly large core flow so they can do high angle of attack. Also we were able to provide uniquely an

environment that replicates the state of physics near the body (boundary layer) naturally."

Regarding the new transformer, Grant said, "We are now about three years into the project to replace the Inductrol. During 2009 we put together a technical specification and contract package for a power supply replacement design. In May 2010, after having been awarded the contract, Rapid Power Corp. in Burlington, Vermont, delivered our new power supply."

Marren said support from AEDC in middle Tennessee was critical to the success in finding a solution to a complex challenge.

"We also asked Karen Buckner and Nick Hibdon for insight into contracting and civil engineering support from long distance," he said. "Challenges there are also monumental and these folks are top rate. Those two are essential to a successful program and I consider them part of my 'A' team."

Hibdon, a project manager with AEDC's program section, said supporting Tunnel 9's upgrade project can be a daunting task, but one that is rewarding.

"Our job is to oversee a project from beginning to end," he said. "It requires constant communication with the [outside] contractor and our contracting office, who in this case, was Karen Bucker. The challenge is making sure all the players are on the same page within the project even though separated by several hundred miles. Dan and his team are our eyes and ears; Karen is our contracting officer.

"My job, normally being a mediator, has been very pleasant during this project. Dan and his team, specifically Jeff Waldo, Greg Wannewetsch, Stephen Grant and Larry Resch, have done a great job keeping all of us up to date and in the loop.

"Tunnel 9 provides a very unique service and this project is about keeping that capability available."

MATTY from page 1

civil engineering branch at Reese AFB, was also assigned to Arnold. To Matty's knowledge, they were the first joint spouse assignment at AEDC.

"When I got done in the flying business, I wasn't sure I could do anything else," Matty said. "Rosemary convinced me that I could be an engineer, and she was right. I was surprised. I really thought the only thing I could do was flying. What I was really cut out for was not flying for a living, but flying as a hobby."

Jere and Rosemary met when they were in the ninth grade and Rosemary's family moved next door to Jere's in Chesapeake, Va. They graduated high school first and second in their class – her first – and both started their Air Force careers. They got commissioned, graduated and married all within a couple of weeks.

"She actually commissioned me," he said. "She was a lieutenant first."

Matty started out working in the Reentry Systems Testing Branch working with the arc heaters, while he was still an Air Force lieutenant. He later moved into the technology division.

"The good thing in technology is we got to work with all the facilities – you know, things like pressure sensitive paint, the probes that look into the engines when they're in full afterburner," Matty said. "I didn't hands-on do any of these things. I was just in the technology division when these things were developed, and we just kind of helped them along."

When Matty talks about the accomplishments at AEDC, he tends to give the credit to others. When he talks about being able to get funding to upgrade Space Chambers 7V and 10V for sensor testing, he makes sure his co-worker, Jim Parker, gets more than his fair share of credit. When he mentions that he worked with the Department of Defense's High Performance Computing Initiative office to get funding for AEDC systems that helped develop software for the base and other DOD agencies, once again he downplays his role.

"Not that I was the smartest guy, but I was kind of the salesman for our smart CFD (computational fluid dynamics) folks, and

they needed somebody like that," Matty said.

His wife confirms that Matty is not the type of person to boast about his accomplishments.

"He's more of a team player," Rosemary said. "Anything that's been done, he would like to give credit to the team. If you were going to say he was proud of anything, it would be his family."

While Jere and Rosemary are both engineers, their four children aren't necessarily following in their parents' footsteps (with the exception of their oldest son, Christopher, who works for Jacobs Technology and supports NASA in Houston). Their oldest daughter, Tina, works at Target headquarters in Minneapolis. Maria is a sophomore at University of Tennessee-Chattanooga and is considering a career as an art therapist. And their youngest daughter, Nicola, is a junior at Tullahoma High School; she's interested in business.

"To them, engineering is nerdy," he laughs.

Matty doesn't have set plans for retirement. Rosemary is still working at AEDC, and their youngest daughter is still in high school. But he does have a long list to prioritize.

"He's already planning more than he can do in a lifetime," Rosemary said.

Near the top is their first grandson. Son Christopher won't be at Matty's AEDC retirement party because he and his wife are in Houston, expecting a child any minute.

Matty wants to get involved with other people's kids as well through AEDC's science, technology, engineering and mathematics (STEM) program. He plans to volunteer at local schools and help young people realize that engineering is a field that touches more aspects of their lives than they realize.

"You need lawyers. You need politicians and those guys, but what they're really interested in is dividing up the pie," Matty said. "What engineers do is make the pie bigger. And when you think about where we are now with just cell phone technology, or integrated circuits or all of those things that came from the space program, it's just astounding how life changes with those things. So when they ask why go

back to the moon or why



Above, 1st. Lt. Jere Matty, right, examines a model along with Elton McDill in 1981, the year Matty arrived at AEDC. Matty is an avid biker and runner, among other things, and plans to continue those activities in retirement. (File photos)



go to Mars, it's not about going to the moon or Mars. It's about all the stuff you'll learn on the way there."

He also wants to stay involved with Special Olympics, which he has volunteered for several years.

"It's a great program," Matty said. "Those kids are just wonderful. They don't care if they're first or last; they just want their day in the sun. They want to stand on that platform and be cheered for and they deserve that every day. They are just wonderful, wonderful kids."

And then, there's exercise.

During a routine flight physical when he was 45, doctors found a bicuspid aorta valve in Matty's heart. The valve wasn't opening or closing, and he was told he might not have lived another year if it hadn't been discovered.

Since the faulty valve was replaced with the valve from a pig's heart, Matty has spent the last 10 years as an "exercise and nutrition nut." He runs 15 miles a week, swims on Wednesdays, practices yoga and lifts weights twice a week. He can't keep track of how many marathons he has run.

Matty also enjoys skiing, scuba diving, playing piano and flying sailplanes. But even though retiring means he'll have more time for some of the myriad activities he enjoys, he's going to take it slow at least for a little while.

"I tell people I'll probably set an alarm clock so I can get up in time for my nap," he jokes. "I don't want to miss out on any loafing, you know."

And when it comes to leaving AEDC, Matty knows the base is in good

shape to continue without him.

"AEDC is a great place," he said. "One of the things that impresses me the most is recently we've hired a lot of new young folks – both on the Air Force and ATA side – and I'm very confident that these young folks will do just fine. They're very enthusiastic, they're sharp and a lot smarter than I was at that age. So they're going to do just great. It's good to know the center will be in good hands in the future."

CIVILIANS from page 5

Civilian Development program is a great opportunity for civilian contracting professionals.

“The potential for these exceptional, highly motivated individuals is limitless,” Kirbabas said. “They are our future, and we need to provide them with opportunities to grow professionally, as well as feed their desire to make a difference in the world. This deployment initiative does both.”

For more information and to apply to the program, contact Senior Master Sgt. Chris Soares at (937) 257-3853.

New research lab facility at Eglin

Dr. John Wilcox, Air Force Research Laboratory Munitions Directorate director, and Dr. David Lambert, a senior mechanical engineer at the AFRL Munitions Directorate damage mechanical branch, give an overview of the new High Pressure Particulate Physics Facility here Feb. 6, 2012. The facility was built to enhance the role of science and technology in smart munitions development, and contains a 60-mm smooth bore gun, complemented with high-resolution, high-precision, time-resolved diagnostics for use with various imaging technologies. The gun will be able to launch a few kilogram mass at high speed and will address basic questions on material behavior, as it relates to munition weapon systems and weapon effects. (Photo provided)

**ENGINEER** from page 3

He originally considered civil engineering because it seemed to fit his idea of what all engineers do.

His experience with Engineer-for-a-Day at AEDC changed his perspective of the profession.

“At the time when I came on base they let us see a rocket [motor] firing,” he

said. “[We went] into the test control room and watched them fire it off. That was interesting, because that was another aspect of engineering I’d never considered, the dynamics and that part of it.”

“It kind of opened my eyes up as far as what engineers can do. That kind of broadened my horizons as

I went into school, I didn’t want to just concentrate on one thing or the other.”

McInturff said he will take part in this year’s Engineer-for-a-Day activity.

“I will probably show them the ‘typical’ mechanical engineering side here,” he said. “I’ll take them to different places I’ve worked,

the steam plant and show them that aspect of it.

“I can show them different plans we have in place as far as reducing our steam footprint, converting over from gas to electric or vice versa depending on the application using variable speed drives and motors where applicable, things

like that.”

He also wants to show the students what test engineers at AEDC do, to give them a broader overview of what the profession entails.

The students will tour AEDC, have a pizza lunch and then go with a mentor to observe engineers at work. After lunch, some students

will stay at AEDC, and others will go to companies in the local area.

For additional information, contact AEDC’s Paul Kelly, Tullahoma TSPE chapter member and chairman for the Engineers Week activities, at (931) 454-6542 or call Harry Clark at (931) 454-4495.

FELLOWS from page 3

fied for consideration as an AEDC Fellow must personally have made sustained,

notable and valuable contributions in aerospace ground testing at AEDC.

AEDC Lifetime Achievement Fellow nominations may be submitted

by any present or former AEDC government or operating contractor/subcontractor employee. AEDC Lifetime Achievement Fellows are reserved for exceptional candidates and are not necessarily selected each year.

All current or retired military, civilian and operating contractor/subcontractor personnel assigned or previously assigned to AEDC can be considered candidates for selection as an AEDC Lifetime Achievement Fellow.

Candidates qualified for consideration as an AEDC Lifetime Achievement Fel-

low must personally have made notable and valuable lifetime contributions to AEDC in any area relevant to the AEDC mission.

Only AEDC Fellows may submit a nomination for an AEDC Honorary Fellow. AEDC Honorary Fellows are reserved for exceptional candidates and are not necessarily selected each year.

Candidates qualified for consideration as an AEDC Honorary Fellow must have made sustained, notable, valuable and significant contributions to AEDC. These eminent individuals

need not have worked at Arnold AFB.

Newly selected AEDC Fellows are honored annually on or about June 25, the birthday of General of the Air Force Gen. Henry “Hap” Arnold.

For more information including the format for AEDC Fellows nomination submissions, contact AEDC Historian David Hiebert at (931) 454-4203. Nominations must be submitted in written form with supporting materials to: AEDC/CZ, 100 Kindel Drive, Suite A327, Arnold AFB, TN 37389-1327.

Suggestion earns award for employee, cost savings for AEDC

By Shawn Jacobs
Aerospace Testing Alliance

A suggestion that will save AEDC \$23,548 annually and earned an employee cash award through the ATA Ideas in Action Suggestion Program required innovative thinking by Marty Gordon.

Gordon, a software engineer for ATA, was recognized in December 2011 for work that he actually began in May. Gordon was involved in transitioning the Oracle Work Asset Management (WAM) application from physical to virtualized servers.

WAM is the software system that stores and configures all of AEDC's assets. It is used to generate work orders, charge for labor and services and provide for the management and inventory of facilities, infrastructure and equipment.

Rather than just migrating the existing physical server configuration to a virtual environment, Gordon revalidated the system architecture for potential savings. Research and action occurred in two areas: consolidation of Oracle WAM web/application servers and changing the annual Oracle WAM software maintenance to align with server consolidation.

"First of all, we changed the server configuration," Gordon said. "We went from a two-server configuration to a virtual server. That configuration allowed us to have a different structure in our

price at the time."

The success of the web/application server consolidation made possible the option to reduce the annual Oracle WAM software maintenance agreement for fiscal year 2012 and beyond.

Gordon said that means the cost avoidance should be realized throughout the length of the contract.

According to Gordon, this agreement change required a ruling by the software vendor, Oracle. The Oracle research took several months to complete because the original agreement was put in place under the software vendor Synergen, which had since sold the software.

"Allowing us to go to a one-server configuration really tripped it to my question that we had two and now only have one, so it should be half," Gordon said. "And they [Oracle] said it should have been a site license and they reduced it significantly."

Mark Rigney, director of Information Technology and Systems (IT&S) for ATA, complimented Gordon for his innovative work.

"I'm very proud of Marty and the work he does on a regular basis, not only in his day-to-day productivity but also in his insightfulness and his ability to think outside the box in his efforts for continuous improvement, trying to make things better for AEDC," Rigney said. "[Marty's efforts] will result in significant savings for the government. We continually look



Marty Gordon (left), an ATA software engineer, earned an Ideas in Action Suggestion Program cash award in December by helping discover a \$23,548 cost avoidance for AEDC. The savings came about as part of transitioning a computer software application from a two-server configuration to a virtual server. Also pictured is Mark Rigney, director of Information Technology and Systems (IT&S) for ATA. (Photo by Rick Goodfriend)

for ways to improve and provide effective, efficient IT services."

Gordon, a Bedford County resident, has worked at AEDC for almost 28 years.

The Ideas in Action Employee Suggestion Program is designed to encourage employees to exercise initiative within and beyond

their basic job requirements to develop suggestions that improve the performance and quality of work while achieving company objectives. It also establishes open communication of ideas and maximizes employee talents.

Suggestions should be submitted through MatrixOne or Ideas in

Action form GC-1390 to the department suggestion coordinator. In addition, suggestions that have potential costs savings/avoidances must be submitted on form GC-1570, Cost Analysis Summary.

For more information, employees may contact Tina Bonner at 454-6804.

AEDC's Bob Lindeman reflects on a long career

By Philip Lorenz III
Aerospace Testing Alliance

From an early age, Bob Lindeman, ATA system engineering lead for the Space Threat Assessment Testbed (STAT), showed an interest in anything electrical, but he also acknowledged his limitations.

"I found out early on I wasn't any good as a technician," he said. "I could think of things – visualize things, but wasn't 'handy.'"

His father, who was an electrician, had the hands-on skills Lindeman lacked, but the older man was intrigued by his son's ability to grasp the big picture and his ability to communicate those engineering concepts to others.

"He was an electrician, so he would take what the engineers would draw up and then he would do the practical side of it," Lindeman said. "He understood what was going on there. He was interested in my relationship with other people and how we worked together to get things done."



Bob Lindeman gets in the mood as he plays a Jimmy Buffet tune on a Fender Telecaster electric guitar. (Photo provided)

Lindeman said, "I liked math and science, I always had a desire to find solutions and fix things and come up with differ-

ent ways to do things."

With a career spanning more than 30 years, much of it at AEDC, Lindeman first came to

middle Tennessee and Arnold AFB as an engineer employed with North American Rockwell in 1973.

"They were building a new bomber and so [they] sent me out here to work in third shift, like they do with the new guys in wind tunnels and stuff," he said. "I'd never seen wind tunnels or heard of them before I went to work for them. We tested it in 16T and 16S for almost two years."

The move from southern California to middle Tennessee took some adjusting.

Lindeman recalls thinking, "This is a culture change here." Then it was pretty amazing when you find a place like AEDC in middle Tennessee and the people who have been here through the years – really the trailblazers in all fields and my field's instrumentation and controls. So many people have done so much work here to support the aerospace industry, it's just amazing."

Lindeman and his wife liked the area and decided to stay.

Regarding career highlights at AEDC, he said, "The first one was being able to support a wind

See LINDEMAN, page 10



AEDC junior officer's council supports Teens for Jeans

By Philip Lorenz III
Aerospace Testing Alliance

With help from AEDC's Company Grade Officer's Council (CGOC) and others, the Franklin County High School's "Teens for Jeans" Drive was a success.

A couple of weeks ago, 2nd Lt. Matthew Karczewski, a hypersonic propulsion test engineer for AEDC's Aerodynamic and Propulsion Test Unit (APTU) and CGOC member, put out the word for donations base-wide.

"Last year FCHS AFROTC collected 3,692 jeans to help homeless teens, this year they would like to reach 5,000 jeans," he said in that initial message. "With our help they will be able to achieve that goal."

As of Feb. 12, the drive ended and FCHS not only met the goal, they exceeded it.

"This year's total was 6,522 [pairs of jeans]," said retired Chief Master Sgt. Everett Smith, Franklin County High School aerospace science instructor and assistant wrestling coach. "I retired as the center superintendent from Arnold AFB and was exposed to the numerous good works the CGOC championed then and their continued positive impact on the surrounding

community. As an instructor in an Air Force Junior Reserve Officer Training Corps unit, this will expose our cadets to the teamwork among military units and how we place service before self.

"The CGOC brought their enthusiasm and energy to a very worthy cause. Their ability to organize a base-level effort has helped us make a big difference. Their combined effort with the Franklin County community has allowed us to reach more people with the message."

The non-profit organization DoSomething.Org and clothing retailer Aeropostale teamed up in 2008 to motivate young people to help others through the national campaign now known as Teens for Jeans.

Smith put the effort into perspective.

"One out of three homeless people is 18 and under," he said. "In the U.S. and Canada the number of homeless teens is about 1.5 million. The drive is called Teens for Jeans. The idea is for teens to help fellow teens across the nation.

"The jeans are distributed locally and in middle Tennessee. I was told by one of the receiving organizations that jeans are a very prized item for distribu-



Company Grade Officers Council (CGOC) member 2nd Lt. Matthew Karczewski and CGOC President 1st Lt. Alex Henning load several containers of donated jeans in support of Franklin County High School's Teen for Jeans drive into a truck. Lieutenant Karczewski is a propulsion test engineer for AEDC's Aerodynamic and Propulsion Test Unit (APTU) and Lieutenant Henning is a test technology project manager at AEDC. (Photo by Jacqueline Cowan)

tion. They provide warmth and are important for wear at work and during job-seeking efforts."

Regarding his group's involvement, Lieutenant Karczewski said, "This is my first

assignment so I hadn't done anything like this yet and I thought it would be a good experience.

The CGOC decided to help out because the drive is for a good cause and we knew we could

really help FCHS's Air Force Junior Reserve Officer Training Corps meet their goal. The main focus of this drive is for homeless teenagers, but it also benefits all homeless people."

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tunnel test. We had a specialized data system; it was called the analog distortion analyzer.

"The purpose of that was to measure the inlet distortion going into the engines on the B-1 bomber – to determine stall margins and things they do with engines I don't know anything about. But the instrumentation was really interesting with specialized Kulites.

"We built our own analog computer that did the calculations. Today you could do it with your iPhone, but this was using op (operational) amplifiers

and building up circuit boards and filters. The programming was done by changing the wiring on the back frame – literally changing the wiring. It was done in the wind tunnel."

A Kulite is a specialized high response pressure transducer that measures dynamic pressures and is very small. It is based on strain gauge technology.

"You could get 40 of those per inlet and make a lot of measurements and with relatively minor intrusions into the airflow," he said.

Lindeman enjoyed

working with what was then state-of-the-art technology, but mostly, it was the challenge of working autonomously and being able to influence the course of a test.

"Just being responsible to maintain and make changes [while working with and supervising] 20 engineers was pretty awesome," he said. "My boss was 2,000 miles away. You learn a lot, get a lot of responsibility early on – that was a great experience."

Keith Holt, AEDC's STAT program manager, has known Lindeman for at least 25 years.

"Bob and I have both run and been involved in these major programs, building these major facilities for most of our career out here," Holt said. "He is, in my opinion, the best at what he does. He definitely knows system engineering better than anyone else out here. That's why he's such a good fit for the role that he's in now.

"This [STAT] is a big program that we want to make sure the system engineering is done correctly. Bob is also the lead for integration and testing. He's been involved with the systems engineering processes

at AEDC for 25 years and in writing processes and procedures."

Holt said the right man is overseeing the system engineering for the project.

"Bob's leadership in this program (STAT) has been invaluable at helping us to be as successful as we are," he said. "It's more automated than anything we've built at AEDC, it really is a turn it on and walk away from it facility. I always tell people this is the most Dr. Frankenstein thing we've ever built out here; there's not another facility like this in the world."

Regarding who would want to conduct testing in STAT, Lindeman said, "Anybody who uses satellites or puts things into space – this could be of use for them."

Lindeman, the current International Society of Automation (ISA) president and a longtime ISA member, has promoted engineering and science to young people for years.

When he wants a break from work, Lindeman and his wife enjoy attending concerts.

"I like the old classic

rock and roll," he said. "My wife and I have made several trips, seen lots of the old timers. My very favorite is Jimmy Buffet.

"We've [also] seen John Fogarty, Bob Seger and [recently] saw Paul McCartney up in Nashville at the Bridgestone – that was a great show. We keep adding them up, Rod Stewart, Stevie Nicks and we're going to see the Moody Blues in March."

However, there is another side to Lindeman that few know about.

"I mess around with the guitar some, just for enjoyment," he said. "I was about 10 - 12 years old and took lessons.

"I have an acoustic guitar, but I just got a new Fender Telecaster and I have fun with it. And I've got an amplifier that's really cool. It's really a computer, so, you can program different types of sounds. You can make it sound like a classic vintage amplifier with the right reverb and echoes and all sorts of stuff."

Lindeman plays the guitar for one simple reason.

"It's fun," he said.

Star Trek fan becomes first African-American female to fly U-2

FORT GEORGE G. MEADE, Md. (AFNS) – By the time Meryll Tengesdal graduated from the Navy's flight aviation program in 1994, the early women aviation pioneers like Bessie Coleman, Janet Bragg, Willa Brown and Mae Jemison had pretty much broken the barriers for race and gender.

But after the Bronx native switched to the Air Force a decade later, she helped rewrite the aviation and Air Force history books by becoming the first African-American to fly the U-2 reconnaissance plane.

Inspired as a young girl by the Star Trek movies of the 1970s and '80s, Tengesdal went on to excel in math and science in high school and took that interest into college where she earned a bachelor's degree in electrical engineering from the University of New Haven, Conn.

After graduating from

college, Tengesdal traveled to San Diego where she applied for and was accepted into the Navy's flight aviation program and would spend the next 10 years as a helicopter pilot flying the SH-60B Sea Hawk on missions in the Middle East, South America and throughout the Caribbean.

In 2004 Tengesdal switched to the Air Force where she made a dramatic change from helicopters to flying at altitudes of as much as 70,000 feet for hours at a time flying the U-2 reconnaissance plane. "I was one of five women in my class and the only female that graduated," said Tengesdal. "I just stayed focused as I went through the training process."

Tengesdal said the U-2 is one of the more difficult aircraft to fly, and is designed for high altitude, with a long wingspan and a landing gear with two wheels rather than three. "When you land, you ac-



Lt. Col. Meryll Tengesdal, first African-American female U-2 pilot.

tually have to stall the aircraft at two feet because of the wings." Tengesdal said that some of her best moments as a U-2 pilot have

come during Operations Enduring Freedom and Iraqi Freedom, along with Joint Task Force - Horn of Africa where she was able

to provide troops on the ground with information obtained from her flights.

Tengesdal is a senior pilot with more than 3,200

flying hours, with more than 330 of those in combat. She is currently a lieutenant colonel assigned to Peterson AFB, Colo.

Air Force tests next-gen networks, devices for operational use

By Senior Airman Jason J. Brown
633rd Air Base Wing Public Affairs

JOINT BASE LANGLEY-EUSTIS, Va. (AFNS) – Everywhere you look, people are tapping, talking and swiping away at smartphones and tablets. Rapidly-emerging technologies give users information immediately, and these super machines fit easily in the palm of your hand.

The Air Force is planning to implement these high-tech handhelds into daily operations and, in preparation, the Air Force C2 Integration Center kicked off the Joint Expeditionary Force Experiment here Jan. 13.

Dubbed Unified Communications I, the goal is to determine commercial cellular carriers' ability to provide sufficient service to support the Air Force's mission sets.

According to Ken Gunter, the JEFX event manager, the four-week experiment will test the networks and hardware of Verizon, T-Mobile, AT&T and Sprint to see if the carriers will accommodate communication needs.

Teams of emergency response, civil engineer and maintenance Airmen will use Apple iOS and Google Android-based smartphones, tablets and mobile hotspot devices in a variety of scenarios to test their functionality and effectiveness.

"Our goal is to do things smaller and faster," Gunter explained. "We need to move away from our current infrastructure, like (land mobile radios) and first- and second-generation

wireless, and transition from five networks down to two – wireless cellular and assured (local area network). Legacy systems have to go away, as they're too expensive to maintain and not flexible.

"Five years ago, we couldn't do what we're able to do now," he continued. "Now, I can put a device in an Airman's hand with all the capabilities of a phone and computer. The Air Force told us to find the future architecture of communications, and these devices are being tested to get us there."

In 2012, the Air Force plans to introduce "tens of thousands" of smart devices, according to officials. The JEFX will validate the mobile strategy being developed at the Air Force level and across the entire Department of Defense.

Gunter said the Air Force is choosing cellular over Wi-Fi connections because cellular is more secure, provides greater range, and costs less to operate and maintain.

"One or two cell towers can cover an entire base, as opposed to establishing potentially thousands of access points for Wi-Fi connections," he said. "Also, all four carriers will offer 4G coverage in our area here within the next year. With the current available 4G network, we have 10 times the bandwidth we had even four months ago."

The experiment will look at carriers' augmented technologies, such as the infrastructure needed on base to ensure maximum,



Ken Hughes, left, an Air Force Integrations Center systems engineer, and Staff Sgt. Sarah Kearney, a 633rd Security Forces Squadron patrolman, send and receive messages during a Joint Expeditionary Force exercise at Joint Base Langley-Eustis, Va., Jan. 25. Participants traveled in groups to various locations to test and collect data on cellular networks and their capabilities. (U.S. Air Force photo/Staff Sgt. Ashley Hawkins)

uninterrupted coverage and improve signal penetration in buildings.

"We need networks and devices that will allow us to do our mission, like launching our planes and securing the base in the event that commercial communications goes out in a hurricane or other catastrophic event, when that communication is most critical," Gunter said. "For example, say there's a crash at an air show with 10,000-plus civilians on base, all using their cell phones. How do we prioritize network coverage to ensure first re-

sponders can do their job? That's what we're here to figure out."

The AFC2IC chose JB Langley as the test site for the experiment as a cost-saving measure. The organization's labs are located in surrounding Hampton, Va., and Air Combat Command mission partners are headquartered at JB Langley, eliminating temporary duty assignment costs.

The JEFX UC1 experiment will be followed by second field exercise, UC2, slated tentatively for July.

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Air Force leads DOD in green power

By Jennifer Elmore
Air Force Civil Engineer Support Agency

TYNDALL AIR FORCE BASE, Fla. (AFNS) – The Air Force is one of the nation's top purchasers of green power, according to the U.S. Environmental Protection Agency's Top 25 list of Green Power Partners released Jan. 31.

The Air Force's use of renewable energy ranks number one in the Department of Defense, number two in the federal government, and number 15 among 1,300 Green Power Partners including large corporations and municipalities such as Dallas and Houston.

The EPA Green Power Partner program only gives credit to renewable energy produced at U.S. facilities built after 1997.

"If the Green Power Partner program gave us credit for all the 'old' power we purchase (produced at facilities built before 1997) and the power we produce at installations outside the continental United States, the Air Force would be number one in the federal government and number eight in the country," said Ken Gray, the chief of the Rates and Renewables Branch at the Air Force Facility Energy Center at Tyndall AFB, Fla.

Since becoming a Green Power Partner in 2003, the Air Force has always appeared near the top of the federal list. More than six percent of all facility energy used

by the Air Force comes from green power sources, which is more than the federally mandated energy goal of five percent by 2010 as defined under the Environmental Protection Act of 2005. In 2011, for example, the Air Force used 265 million kilowatt-hours of renewable energy, an increase of 15 million kilowatt-hours from the previous year.

"We've developed a strategy we're calling the Air Force Renewable Energy Game Plan in which we plan to add 33 renewable energy projects on our installations during the next five years," Gray said. "The plan would provide as much as 27 percent of the total Air Force electric demand in the form of renewable energy and far exceed the federal mandate of 16 percent renewable energy use by fiscal year 2016."

The Air Force more than doubled its number of renewable energy projects in the past year. There are 131 projects in operation on 56 bases and an additional 50 are under construction. Projects include solar photovoltaic, solar thermal, geothermal in the form of ground source heat pumps, wind, daylighting and landfill gas.

The Air Force is also exploring use of waste-to-energy at more than 20 bases identified as ideal locations during opportunity assessments in 2011.

A-10 service



Vapor swirls around a liquid oxygen servicing cart as Airman 1st Class Zak Skelton prepares to service an A-10 Thunderbolt II Feb. 5 at Selfridge Air National Guard Base, Mich. Skelton is a crew chief assigned to the 127th Aircraft Maintenance Squadron, a component of the Michigan Air National Guard. (U.S. Air Force photo/Tech. Sgt. David Kujawa)

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During that exercise, the group plans to include units and personnel from Fort Eustis, and will focus on the features of applications of various devices.

“We want to pull in as many functional areas as we can here, including our Fort Eustis mission partners,” Gunter said. “These technologies promote interoperability and allow us to avoid stovepipe systems. That cuts down response times and makes commu-

nicating more seamless, which further enables joint operations.

“Whenever there’s a need to set up and assess new technologies, that’s what we do,” Gunter said. “Warfighters come to us with problems, and we help find solutions. We’re excited about giving this amazing new technology to our Airmen to see how we can take the next step in streamlining how we accomplish our mission.”

Jacobs scholarships available for children of ATA employees

Scholarship Management Services®, a division of Scholarship America®, is accepting applications for the Dr. Joseph J. Jacobs Global Scholarship Program.

Employees with students who would like to be considered for scholarships for the 2012-13 school year must apply by April 2.

Over the last two years, the Jacobs Engineering Foundation has awarded 60 academic scholarships of \$3,000, each from more than 1,000 applications submitted.

This program was introduced in memory of our founder, Dr. Joseph J. Jacobs.

Dr. Jacobs showed a particular devotion to education and recognized the significant value of making higher education attainable for any child who sought it.

The program is inde-

pendently administered by Scholarship Management Services®, a division of Scholarship America®. Scholarship America® is a nonprofit educational support and student aid service organization located in the United States.

Information on eligibility, the scholarship awards, the application, and the selection process is available on the AEDC portal at <https://ata.arnold.af.mil/ata/benefits/scholarship/scholarship.htm>.

It can be found as well as on Scholarship America’s webpage for the Dr. Joseph J. Jacobs Global Scholarship Program (<http://sms.scholarshipamerica.org/jacobs>).

If you need help locating the scholarship information, please contact Laurie Winton, ATA University Programs Coordinator at 454-6686.

Longtime chaplain provides AEDC pastoral ministry

By Shawn Jacobs
Aerospace Testing Alliance

Martin Nutter, a lieutenant colonel in the U.S. Air Force Reserve who has been attached to Arnold AFB for 24 years, prefers to be called “chaplain” as opposed to his rank. He also goes by “Marty.”

From baptisms to weddings and funerals, Nutter said he counts it an honor to serve “the Lord, the service men and women here at Arnold and just minister to Team AEDC.”

He conducts seasonal worship services on Ash Wednesday, an Easter sunrise service at the Arnold Lakeside Center and Thanksgiving and Christmas services in the base chapel located on the first floor of the Administration and Engineering (A&E) Building. Sunday morning worship services aren’t held in the chapel because Nutter’s full-time job is as pastor of Faith Lutheran Church in Tullahoma.

Nutter has been a chaplain at Arnold since he accepted the call to pastor Faith Lutheran in 1988. An Oak Ridge native, Nutter came to Arnold from Altus, Okla., where he was also chaplain at Altus AFB. He said a number of responsibilities rest on the shoulders of the base chaplain.

“Primarily to provide a ministry of presence to the military personnel first and foremost, and I realize that we only have a small contingency of ‘blue-suiters’ here – about 55 or 60 – but I also have the unique opportunity to interface with DOD, ATA and provide a ministry of presence to the entire Arnold community,” he said. “To provide Bible studies and to provide for

the religious expression of all personnel assigned here at Arnold – just to allow that to happen.

“The chapel that we have here is open 24/7, and that’s by design so that anybody can come in at the end of a work day for quiet time, reflective time. We do have about six Bible studies scattered throughout the base in any given week.”

Nutter visits different work areas on base, as well as making hospital visits and participating, upon the commander’s request, at retirement and promotion ceremonies.

He also is part of a team that travels to provide military death notifications for the entire state of Tennessee, northern Alabama, northern Georgia, northwest South Carolina, western North Carolina and southern Kentucky.

Counseling is another aspect of Nutter’s ministry.

“There is quite a bit of counseling, actually,” Nutter said. “I think oftentimes an individual will seek the chaplain even though they might have their own church or pastor. They might want to go elsewhere rather than their own church or pastor.”

Even though Nutter is a Christian, he has to minister to a variety of faiths and provide an opportunity for their free and open expression.

“That has been very difficult for me because I respect and realize that, at least in the chaplaincy, I live in a pluralistic setting,” he said. “Yes, I am a Christian and I cannot just come with all the trappings and so forth of a Christian pastor solely. To allow for the full expression of all faiths is imperative by the chaplain, and that is something that



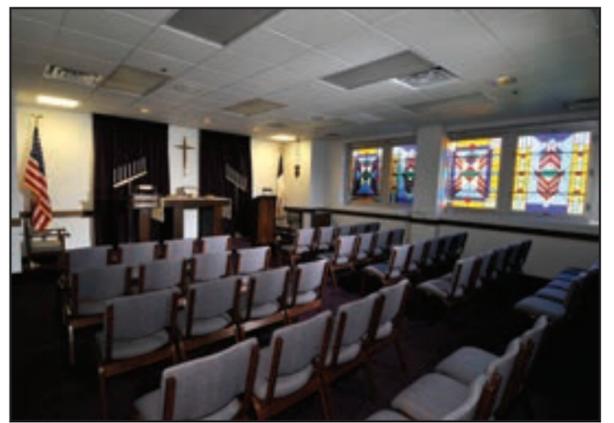
needs to be underlined. In the chaplaincy, that does not mean, however, that I have to shove Christianity or Jesus Christ in a closet.

“I think the key here is to be respectful and not to go off like a loose cannon, and I think each chaplain should judge each situation, each occasion, that he is called upon to be involved in ministry. At the same time, to provide for expressions of all faiths or no faith ... to provide for that expression to be provided or to help in securing resources [such as] giving guidance to where the nearest synagogue might be.”

As chaplain, Nutter is required to be on base 12 days a year plus a two week annual tour.

“So 24 days, but I probably end up coming here about four times a month,” he said. “If I’m needed or if there’s counseling or something, I’ll come in because I’m only 12-15 minutes away.”

Above, Arnold AFB Chaplain Marty Nutter helps serve food at an annual Veterans’ Picnic at the Arnold Lakeside Center. The AEDC chapel in the A&E Building, right, provides a quiet environment for prayer or reflection 24/7. (Photos by Rick Goodfriend)



He said the base Commander Col. Michael Brewer or AEDC Chief of Staff Kenneth Jacobsen can readily contact him to come in for any purpose.

Nutter said there are similarities and differences between pastoring a church and the chaplaincy at an Air Force base, but both activi-

ties are fulfilling.

“Certainly the area of pastoral care and counseling is the same, regardless of whether I’m in the pastoral setting in the church or the chaplaincy here at Arnold,” he said. “I’m very much a people person. There are probably those who I minister to in Tullahoma who

I see more on a week-to-week or day-to-day basis and other settings as well, Bible study or worship or so forth. Here it’s establishing new friendships, providing pastoral care, and with the turnover in the military, it’s an opportunity to be used by the Lord to be involved in the lives of many people.”

Arnold Golf Course 454-GOLF, 454-FOOD

Check us out on Facebook! Arnold AFB Services Golf Course

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

Arnold Lakeside Center 454-3350

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

First Friday Jam is March 2 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):

Friday 4-9 p.m.

March 2: 50-cent wings
March 9: Fried chicken plate, \$9.95 member, \$11.95 nonmember.
March 16: Chicken fried chicken, \$9.95 member, \$11.95 nonmember.
March 23: Spaghetti & meatballs, \$9.95 member, \$11.95 nonmember.
March 30: Fried catfish plate, \$9.95 member, \$11.95 nonmember.

Saturday 5-9 p.m.

March 3: Homemade lasagna, \$10.95 member, \$12.95 nonmember.
March 10: Date Night Movie "New Year's Eve" with special 2 for \$25 (\$23 members) dinner menu or pizza
March 17: St. Patrick's Day Bash, FREE members, \$13.95 nonmembers (\$4.95 age 12 and under). 5:30-8p.m. RSVP by 2 p.m. March 14 complete details on insert cover
March 24: Prime rib for two, \$29.95 member, \$31.95 nonmember.
March 31: Cajun chicken pasta, \$10.95 member, \$12.95 nonmember.

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

Arnold Lakeside Center has planned an evening getaway to **Chaffin's Barn Dinner Theater** in Nashville March 23 to see "Too Old for the Chorus but Not Too Old to Be A Star," a smart, funny musical revue about men and women who suddenly find themselves 50! Set in their neighborhood retro coffee shop, five characters express, over 18 musical numbers, the gamut of their frustrations and joys – from troublesome relations with still-demanding parents and cutting-edge technology, to finding delight in second careers (and second chances), to getting smarter and finally knowing that "age is just a number." The title celebrates life, finding fulfillment and being appreciated for exactly who you are – all the while getting a senior discount! As is custom at Chaffin's Barn, enjoy dinner before the show and then watch as the stage descends from the ceiling and the lights dim. Cost is \$55 and deadline to sign up is March 8. Cost if signed up March 9-16 will be \$60. Depart from the ALC at 4:30 p.m. and return approximately 12 a.m. Call Melissa at 454-3303 to sign up for the trip. There must be a minimum of six to go and maximum participants is 20.

Last Friday Trivia Contest is 6:30 p.m. March 30. 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.

Café 100 Pizza is available 10:30 a.m.-1:30 p.m. Monday through Friday. Pizza is available by the slice in pepperoni or sausage for \$2 per slice or the works (pepperoni, sausage, ham, green pepper, onion, mushrooms, black olives, bacon and extra cheese) for \$3.50 per slice. Whole pizzas are available if ordered the day prior and will require completing an order form and paying in advance. Selections for whole

Date Night Movie returns to ALC March 10 featuring "New Year's Eve"

Arnold Lakeside Center will have a special Date Night Movie evening March 10.

Dinner will be available in the ballroom at 6 p.m. with the movie starting at 7 p.m. The Four Seasons Dining Room will be open for dinner at 5 p.m. Choose from either the two for \$25 (\$23 member price) special menu or pizza menu.

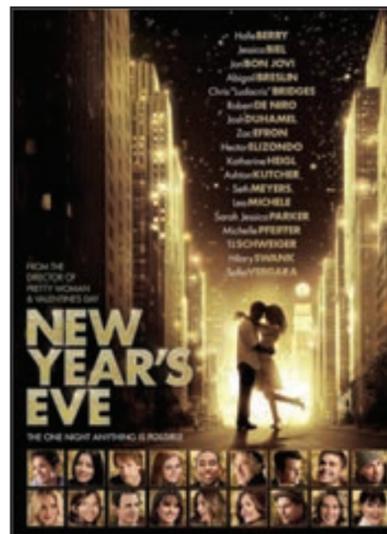
The regular dining room and Express menu will not be available.

The special menu includes choice of appetizer: spinach artichoke dip, cheese sticks, fried mushrooms or onion rings; choice of two entrees: grilled bacon wrapped sirloin, ten-spice vegetable pasta, Monterrey chicken or grilled cold-water salmon filet; choice of two sides for each entrée: rice pilaf, mashed potatoes, baked potato, steamed broccoli or fries; choice of dessert (served with two

spoons): carrot cake, five-layer chocolate cake or bacon ice cream sundae.

Reservations are requested, especially for parties larger than two, and may be made by calling 454-3350.

New Year's Eve is rated PG-13 and has an all star cast including Michelle Pfeiffer, Zac Efron, Robert De Niro, Halle Berry, Alyssa Milano, Chris "Ludacris" Bridges, Jessica Biel, Seth Meyers, Katherine Heigl, Jon Bon Jovi, Sofia Vergara, Ashton Kutcher, Lea Michele, Josh Duhamel, Sarah Jessica Parker, James Belushi, Hillary Swank, Til Schweiger, Hector Elizondo, Abigail Breslin and more. New Year's Eve celebrates love, hope, forgiveness, second chances and fresh starts in intertwining stories told amidst the pulse and promise of New York City on the most dazzling night of the year.



Join Outdoor Rec for indoor rock climbing March 31

Outdoor Rec (ODR) will be heading to Chattanooga to Urban Rocks Gym on March 31 for some indoor rock climbing.

The day starts at ODR at 8:30 a.m. and is for ages 6 and older (with minimum weight of 35 pounds). As participants enter the facility they will trade their liability waiver for climbing gear. Those under age 18 must have a parent sign their waiver.

Once everyone is suited up there will be a review to include gym orientation, bouldering and belay safety. Bouldering is shorter distance climbs without a rope over a crash pad and belay is to climb with a rope and maintain friction as to prevent falling.

After the review, the group will split by age and those ages 14 and older will start a belay lesson while those under age 14 will start climbing with a staff member. Once everyone passes their belay test the group will be able to belay for each other and an Urban Rocks group leader will serve as safety monitor as well as give tips to help climb more efficiently.

After two hours the staff member will allow the group to continue climbing on their own.

The group will depart the gym at approximately 3 p.m. (CST) headed back to ODR. Cost for the trip is \$40. Remember to bring extra money for lunch and wear proper clothes for climbing. Deadline to sign up is March 21. Late registration/cancellation fees go into effect March 22.

ALC to host St. Patrick's Day Bash



Arnold Lakeside Center will host a bash to celebrate St. Patrick's Day with the popular customs of corned beef and cabbage, green beer, music and dancing on March 17.

The night will kick off at 5 p.m. with green beer specials in the bar. A menu of corned beef and cabbage with vegetables, roasted potatoes, orange-glazed carrots, fresh-baked bread and green shamrock cake will be served from 5:30-8 p.m. A

special mini buffet for kids will include cheese pizza, hot dogs, green mac and cheese and fries.

Traditional and classic music will be provided by American Pie band and Irish Friends from 6-8:30 p.m.

This event is part of the Family Fun Daze biannual promotion to reward members with one of the benefits of being a Members First Plus member – a FREE event for members, their spouse and children. Nonmembers and guests may attend for \$13.95 per person (\$4.95 for age 12 and under). The Pizza menu will also be available for those wishing something other than the traditional Irish fare.

The regular dining room and Express menus will not be available. All attending are encouraged to wear your best Irish gear. Reservations are required by 2 p.m. March 14 by calling 454-3350.

'Dance with Cinderella' Daddy-Daughter Dance coming to ALC

Youth Programs has planned a Daddy-Daughter Dance with the theme "Dance with Cinderella" for March 23 at the Arnold Lakeside Center from 6-9 p.m.

Cinderellas age 5-17 are invited to attend this semi-formal event with their daddy (if daddy is unavailable, another "prince" may come in his stead).

A special menu of grilled chicken breast with roasted red pepper cream sauce, wild rice, steamed vegetables, rolls and red velvet cupcakes will be served. Price is \$45 per couple for members (\$15 for additional daughters) and \$47

per couple for non members (\$17 for additional daughters).

Each Cinderella will receive a tiara and carnation plus a 5x7 keepsake photo. All attending are asked to bring a picture from your younger years to share. A D.J. will provide music and videos for dancing.

There will be a special appearance by Cinderella, her stepmother and stepsisters (Lady Tremaine, Drizella, Anastasia) and Belle from Beauty and the Beast. RSVP to Youth Programs, 454-3277, by March 19.

Outdoor Rec expands paintball to include beginner class and tournament

Paintball in March will offer three different programs: regular Saturday play, beginner class and a team tournament.

All paintball programs are for ages 10 and older. Ages 10-17 must have a parent permission form. Regular Saturday play is 9:30 a.m.-2:30 p.m. every weekend, except the third Saturday 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.

If you have never tried paintball before then you may want to start with our Introductory Class March 10 from 3-5 p.m. Learn about equipment used, the parts



of the gun, shooting the gun and overall playing technique. Cost is \$12 and advance sign up is required by March 7. The class will be held at the paintball field.

Beginning March 17 there will be monthly tournaments 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. Those that attend the Introductory Class and enter the tournament will receive a \$5 discount off the tournament entry fee. Sign up deadline for the tournament will be the Tuesday prior and late registration/cancellation fees will be applied the Wednesday prior.

Remember to wear appropriate clothing – long pants, a long-sleeved shirt and closed toe shoes – as paintballs fly at 300 feet per second and can sting and possibly leave a mark other than paint.

Call 454-6084 for more information about the paintball program or to sign up for any of these events.



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

Services information written and provided by Tanya Heggard

This Services supplement is published by *The Tullahoma News*, a private firm in no way connected with the U.S. Air Force, under exclusive written contract with Aerospace Testing Alliance (ATA). This supplement is an authorized publication for members of the U.S. military services. Contents of this supplement are not necessarily the views of, or endorsed by, the U.S. Government, the Department of Defense, the Department of the Air Force or ATA. Services Division is an exclusive area available to all AEDC personnel, active duty, retired military, National Guard, Reserve military and others as approved by the commander. Services activities include Wingo Inn (lodging), Arnold Lakeside Center, Outdoor Recreation (Marina, FamCamp, Crockett Cove), Golf Course, Family Member/Youth Programs and Fitness Center. Those mentioned above are eligible to use any Services activity during regular operating hours unless it is specified as a "members only" event. Membership remains a personal choice, however, only members are entitled to discounts and other benefits associated with membership.

Services Division Phone Numbers

Area code 931 DSN 340
 Services Chief – 454-7779
 Services Deputy – 454-5915
 Community Services Flight Chief – 454-4062
 Complex Manager – 454-3367
 Arnold Lakeside Center (ALC) – 454-3350
 Arnold Lakeside Center catering – 454-3350
 Gossick Leadership Center – 454-4003

Hap's Pizza – 454-5555
 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) – 454-GOLF (4653) or 454-7076
 Mulligan's Coffee Bar and Grill - 454-FOOD (3663)

March 2012

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1	2	3
				FC Cycling Class 11 a.m. FC Karate 3 p.m. FC Zumba 4:15 p.m. ALC Dinner & Movie Night "Arthur Christmas" PG dinner 5-8 p.m. movie 6:30 p.m.	FC Boot Camp 6 a.m. FC Piloga 11 a.m. ALC ALC .50 cent Wings, 4-9 p.m. ALC First Friday Jam, 6 p.m.	ODR Paintball 9:30 a.m.-2:30 p.m., age 10+, \$35, 454-6084 ALC Homemade Lasagna, \$10.95 members, \$12.95 non, 5-9 p.m.
4	5	6	7	8	9	10
	FC Boot Camp 6 a.m. FC Cycling Class 11 a.m. FC Yoga 11 a.m.	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 No Movie Night due to Annual Awards Banquet	FC Boot Camp 6 a.m. FC Piloga 11 a.m. ALC Fried Chicken Plate, \$9.95 member, \$11.95 non, 4-9 p.m.	ODR Paintball 9:30 a.m.-2:30 p.m., age 10+, \$35 ODR Introductory Paintball Class 3-5 p.m., \$12 ALC Date Night Movie, "New Year's Eve," special 2 for \$25 (\$23 member) dinner menu or order from pizza menu, 6 p.m.
11	12	13	14	15	16	17
	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 Pot O' Gold Run/Walk, anytime during normal hours, 1st 25 to sign up get t-shirt, 454-6440 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 "The Muppets" PG dinner 5-8 p.m. movie 6:30 p.m.	FC Boot Camp 6 a.m. FC Piloga 11 a.m. ALC Chicken Fried Chicken, \$9.95 members, \$11.95 non, 4-9 p.m.	ODR Paintball Tournament 10 a.m., age 10+, \$25 per person, teams of 4, 454-6084 ALC St. Patrick's Day Bash, FREE members, \$13.95 non (\$4.95 age 12-). 5-9 p.m., RSVP by 2 p.m. March 14, 454-3350
18	19	20	21	22	23	24
	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 "Happy Feet Two" PG dinner 5-8 p.m. movie 6:30 p.m.	FC Boot Camp 6 a.m. FC Piloga 11 a.m. ALC Chaffin's Barn Dinner Theater, 4:30 p.m., \$55, sign up by March 8, 454-3303 FamY Daddy Daughter Dance, 6-9 p.m., \$45/couple member, \$47 non, sign up by March 19, 454-3277 ALC Spaghetti & Meatballs, \$9.95 members, \$11.95 non, 4-9 p.m.	ODR Paintball 9:30 a.m.-2:30 p.m., age 10+, \$35, 454-6084 ALC Prime Rib for Two, \$29.95 members, \$31.95 non, 5-9 p.m.
25	26	27	28	29	30	31
	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 "Alvin and the Chipmunks: Chipwrecked" G dinner 5-8 p.m. movie 6:30 p.m.	FC Boot Camp 6 a.m. FamY Jewelry Fair, Café 100, 8a.m.-2p.m. FC Piloga 11 a.m. ALC Fried Catfish Plate, \$9.95 member, \$11.95 non, 4-9 p.m. ALC Last Friday Trivia, 6:30 p.m.	ODR Rock Climbing Trip, 8:30 a.m. – 5 p.m., \$40, age 6+, sign up by March 21, 454-6084 ODR Paintball 9:30 a.m.-2:30 p.m., age 10+, \$35, 454-6084 ALC Cajun Chicken Pasta, \$10.95 members, \$12.95 non, 5-9 p.m.

Hours of operation

Arnold Lakeside Center: Catering/Management offices by appointment. 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.
Café 100: Monday through Friday 6:30 a.m.-1:30 p.m.
Barber Shop: by appointment – Monday, Tuesday, Thursday & Friday 8 a.m.-4 p.m.
GLC: Monday through Friday 7 a.m.-3:30 p.m. May vary depending on bookings.
Family Member/Youth Programs: Tuesday through Friday 10 a.m.-5 p.m., Saturday 12-5 p.m.
Outdoor Rec: Main Office, Check In and Auto Shop Tuesday through Saturday 10 a.m.-5 p.m. Marina by appointment only.
Fitness Center: Monday-Friday 5 a.m.-9 p.m.; Saturday 8 a.m.-4 p.m.
Arnold Golf Course: Pro Shop & Driving Range 8 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.
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.

BX/Commissary customer eligibility

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

AAFES Dividends

Dividends generated from the Army and Air Force Exchange Service (AAFES) overall earnings are a major contributor to Services nonappropriated fund (NAF) construction and renovation projects as well as equipment purchases. Services would like to thank all AAFES customers for their support. Dividends received for January 2012 totaled \$6,818.36.

Briefs from H1

pizzas come in thin or thick crust and 12 or 16 inch. Choose from cheese, pepperoni, sausage, Canadian bacon, veggie, works, meat lovers or build your own from a variety of toppings. Salads are also available for \$3 with choice of ranch, French or Italian dressing.

Easter "Fun in the Sun" Picnic and Easter Egg Hunt is coming April 7 to the ALC. All ages are invited to attend. The event will be held on the patio (nearest Wingo Inn) from 10 a.m.-1 p.m. The egg hunt will begin at 10 a.m. for ages 2-12 with three age groups (2-5, 6-8, 9-12) and there will be four prize baskets awarded in each age group. Remember to bring your own basket for gathering eggs. The picnic lunch will be from 11 a.m.-1 p.m. served buffet style including fried chicken, baked white fish, potato salad, baked beans, bag chips, cole slaw, hot dogs, mac and cheese, pecan pie, carrot cake, cookies, tea and lemonade. Lunch will be open seating and no reservations are required. Cost is \$9.95 for members, \$10.95 for nonmembers and \$5.95 for ages 12 and under. The Easter Bunny will be present 11 a.m.-1 p.m. for photos with kids and their families. The ALC will be closed on Easter Sunday.

Family Member/ Youth Programs (FamY)
454-3277

Check us out on Facebook! Arnold AFB Services Youth Programs

Pretty Discoveries returns for a **Jewelry Fair** March 30 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.

Fitness Center
454-6440

Check us out on Facebook! Arnold AFB Services Fitness Center

The Fitness Center is promoting **Fitness Assessments** during March using the MicroFit Health and Fitness Systems. This includes resting heart rate, blood pressure, height, weight, body fat percentage, back flexibility, aerobic fitness (either bike or step test), pushups and sit ups. The assessment will take about 45 minutes and will provide an objective and standardized measurement of physical health along with professional reports. The MicroFit program gathers and integrates assessment data into educational graphic and text-based reports that compare individual results to those of others within the same gender and age group. A powerful way to motivate change toward healthier behaviors. Call Kevin today to schedule your assessment.

Pot O' Gold Run/Walk will be held March 14 anytime during regular business hours (5 a.m.-9 p.m.). This is "on your honor" for two laps around the Fitness Center trail. The first 25 to sign up receive an event T-shirt.

Group Class Schedule (for eligible users only):

Boot Camp Monday, Wednesday and Friday 6-7 a.m. on the basketball court
Yoga Monday 11 a.m.-12 p.m. on the basketball court
Cycling Monday, Tuesday and Thursday 11 a.m.-12 p.m. upstairs
Zumba Tuesday and Thursday 4:15-5:15 p.m. upstairs
Karate Tuesday and Thursday 3-5 p.m. on the basketball court
Pilates Wednesday 11 a.m.-12 p.m. on the basketball court
Piloga Friday 11 a.m.-12 p.m. on the basketball court

Outdoor Rec (ODR)
454-6084

Check us out on Facebook! Arnold AFB Services Outdoor Recreation

Reservation Policy: FamCamp and Crockett Cove reservations may be made 45 days in advance for active duty and reserve military, 40 days for retired military, and 30 days for all other qualified personnel. Boat reservations may be made 15 days in advance for active duty and 10 days for other eligible individuals. All reservations are made through the Outdoor Recreation by stopping by or calling 454-6084

Tired of paying high prices for vehicle maintenance? Come by and visit the **auto shop** located at Outdoor Recreation. Our auto shop is equipped with a vehicle lift, air compressor, parts washer and a variety of tools for anyone to perform regular vehicle maintenance jobs. The fee is a low \$2 per hour. For additional fee our staff can repair, mount, balance and rotate tires. Anyone wanting that done must call ahead for an appointment. Tire repairs requiring a plug are only \$5 per plug. Mountings are \$3 per tire and \$2 for balancing.

It's party time! Need an **inflatable bounce house or slide** for your child's next birthday party? Look no farther than Outdoor Recreation with our low prices. We have 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 \$200 per day. We also have a giant basketball hoop for \$75 per day and a Rocket Bounce House for \$100 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 \$200 per day. Please contact Outdoor Recreation at 454-6084 to make your reservation today!

Trying to decide where to hold your family reunion or party? We have a few **locations with pavilions to rent** that you can choose from. There are two pavilions at Crockett Cove and one at the Arnold Lakeside Beach. Usage is for authorized personnel only. Rental fee is \$25 per day with a \$50 refundable cleaning deposit that will be charged upon reservation. Once the pavilion is confirmed to be clean the \$50 will be refunded. Reservations may be made

March Movie Schedule

(March 8 – No Movie Night due to Annual Awards Banquet)



March 1 – "Arthur Christmas," rated PG starring voices of James McAvoy, Jim Broadbent and Bill Nighy.
Arthur Christmas reveals the incredible, never-before seen answer to every child's question: 'So how does Santa deliver all those presents in one night?' The answer: Santa's exhilarating, ultra-high-tech operation hidden beneath the North Pole.
But at the center of the film is a story about a family in a state of comic dysfunction and an unlikely hero, Arthur, with an urgent mission that must be completed before Christmas morning dawns.

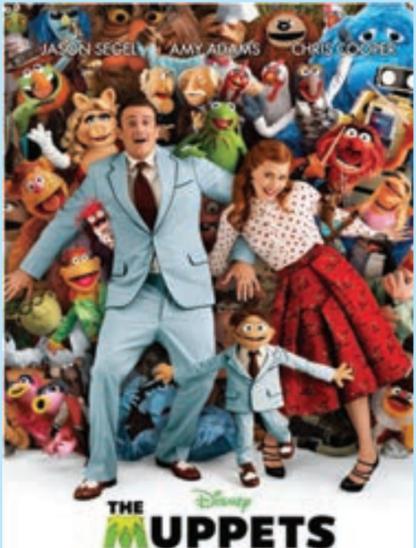


March 22 – "Happy Feet Two," rated PG starring voices of Elijah Wood, Robin Williams, Pink, Brad Pitt, Matt Damon, Sofia Vergara and Common.
Mumble has a problem because his tiny son, Erik, is choreo-phobic. Erik runs away and encounters The Mighty Sven—a penguin who can fly! Mumble has no hope of competing with this charismatic new role model. But things get worse when the world is shaken by powerful forces. Erik learns of his father's "guts and grit" as Mumble brings together the penguin nations and all manner of fabulous creatures—from tiny Krill to giant Elephant Seals—to put things right.

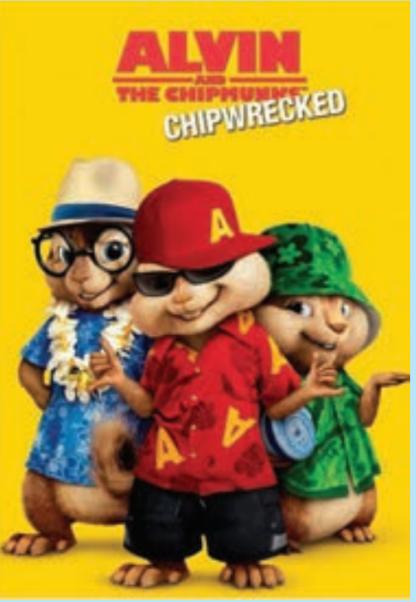
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March 15 – "The Muppets," rated PG starring Jason Segel and Amy Adams.
On vacation in LA, Walter, his brother Gary and Gary's girlfriend, Mary, discover the nefarious plan of oilman Tex Richman to raze the Muppet Theater and drill for oil recently discovered beneath the Muppets' former stomping grounds.
To stage the Greatest Muppet Telethon Ever and raise the \$10 million needed to save the theater, Walter, Mary and Gary help Kermit reunite the Muppets, who have all gone their separate ways.



March 29 – "Alvin and the Chipmunks: Chipwrecked," rated G starring Jason Lee, David Cross and voices of Justin Long, Matthew Gray Gubler, Jesse McCartney, Christina Applegate, Amy Poehler and Anna Faris.
Playing around while aboard a cruise ship, the Chipmunks and Chipettes accidentally go overboard and end up marooned in a tropical paradise. They discover their new turf is not as deserted as it seems.

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.

30 days in advance at the Outdoor Recreation building or by calling 454-6084.

Do you like to cruise on the lake? Want to take your child to that secret fishing spot or teach them how to ski? Give Outdoor Recreation a call. We have **boat rentals** for everyone's needs. We can rent you three ski boats or the Stardeck for just \$20 per hour. We also have two pontoon boats that rent for \$15 per hour and \$30 per hour. The \$30 an hour will rent you the newest pontoon boat we have, S.S. Stuart! Whatever your boating needs might be, give ODR the chance to help you meet that need. Give us a call at 454-6084.

Hands-On Boat Certification Class is now mandatory for renting boats from the marina. Watch the video during the week any time from 8 a.m.-4:30 p.m. After watching the video and taking the test sign up for the hands-on portion which is available Saturday and Sunday at 8:30 a.m., 9:30 a.m., 10:30 a.m., 11:30 a.m. and 12:30 p.m. This class costs \$20 and certifica-

tion is valid for two years. Call to sign up or for more information.

Wingo Inn
454-3051

Check us out on Facebook! Arnold AFB Services Wingo Inn

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

Gossick Leadership Center
454-4003

Check us out on Facebook! Arnold AFB Services Gossick Leadership Center

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

CCM at (931) 454-4003.

AEDC Woman's Club
393-2552

The AEDC Woman's Club will meet at 9:30 a.m. March 6 at Arnold Lakeside Center. The program will be a fashion show with clothes from Cato of Tullahoma. The models will be wearing the newest fashions for spring. Lunch will feature foods that are sometimes linked to St. Patrick's Day.

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.

