



HIGH MACH

Serving the World's Premier Flight Simulation Test Complex



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AEDC Blade Shop provides composite material repair

By Deidre Ortiz
ATA Public Affairs

AEDC is of the first flight simulation testing sites to use composite materials for the rotor blades and spacers in its larger wind tunnels, and the Complex established an onsite facility to maintain these parts.

For the past 50 years, a two-man Blade Shop has been repairing the rotor blades and spacers for the axial flow compressors in the AEDC Propulsion Wind Tunnel facility.

"These tradesmen are the only composite repair technicians on base and are able to complete most repairs necessary to keep the wind tunnel compressors operating," Joshua Blair, PWT mechanical systems engineer, said.

PWT has several compressors, each with a one-of-a-kind blade and spacer combination designed for the operating characteristics of that compressor. Because unique materials are used in the compressor components, each must be repaired in a different way.

In addition to making the repairs for these compressors, the Blade Shop tradesmen assist in ensuring the longevity of AEDC equipment. They serve as experts on compressor components and are heavily involved in the daily and weekly inspections and major preventative maintenance, in which a portion of one of the compressors must be removed and inspected for damage.

Blair explained that when a foreign object in the airstream strikes a composite component in the PWT wind tunnels, it causes broken fabric layers that must be repaired.

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Above, to show its size, an AEDC craftsman stands beside compressor blades in the bell mouth of one of the Propulsion Wind Tunnel facility compressors. The Complex has a Blade Shop that leads repair of the rotor blades and spacers for the four compressors in the AEDC Propulsion Wind Tunnel facility. (Photo provided)



Right, an AEDC craftsman applies adhesive to bond foam seal to a spacer for one of the axial flow compressors used to run the large wind tunnels at AEDC. A two-man Blade Shop has been heading up the repair of the rotor blades and spacers for the axial flow compressors in the AEDC Propulsion Wind Tunnel facility. (Photo provided)

Integrated Natural Resources Management meet at AEDC



Col. Rodney Todaro (middle), commander of the Arnold Engineering Development Complex, signs the annual Integrated Natural Resources Management Plan alongside Richard Kirk (left), manager at the Region II Office of the Tennessee Wildlife Resources Agency, and Mary Jennings, supervisor at the Tennessee Ecological Services Field Office of the United States Fish and Wildlife Service on Aug. 26 at AEDC. Arnold Air Force Base has significant natural resources requiring conservation and management, including habitat for federally listed species protected under the Endangered Species Act and the presence of unique biological resources such as wetlands like Sinking Pond, a property designated a National Natural Landmark by the United States Department of the Interior. Arnold collaboratively manages the installation's natural resources with assistance from the USFWS and TWRA to protect and conserve natural resources while providing hunting, fishing and outdoor recreation opportunities to the public. (Photo by Jacqueline Cowan)

Historic wind tunnel computer treasure found

By Raquel March
ATA Public Affairs

The original nozzle control analog computer for the Propulsion Wind Tunnel 16-foot Transonic Tunnel (16T) was recently discovered among other stored items at the PWT 1-foot research and development tunnel (1T). AEDC Engineer and Fellow Mike Mills recalled that the analog computer was used for approximately 44 years before it was replaced with a digital control system during a sustainment program approximately 15 years ago.

"Back in the pre-digital computer era, many control systems were analog electro-mechanical systems using a combination of

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HIGH MACH

Arnold Engineering Development Complex
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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

Everyone should be ready

By Safety, Health and Environmental

Disasters come in many forms: explosions, tornadoes, hurricanes, and others. Being prepared can reduce fear, anxiety, and losses that accompany disasters.

Individuals, families, and communities should know what to do in the event of a fire and where to seek shelter during a tornado. Knowing what to expect and how to prepare makes any crisis more manageable.

Since the terrorist attacks of 9/11, the United States has recognized September as National Preparedness Month, with emphasis on being prepared for man-made or natural

disaster. This year communities across the nation will be joining the Federal Emergency Management Association by encouraging everyone to be prepared. These tips from FEMA outline ways you can plan now to be ready.

Be informed

Learn about location-specific hazards that could strike your community, risks presented by these hazards, and your community's plans for warning and evacuation. Information is available from your local Office of Emergency Management. Obtain the same information for your workplace and for those places — work, school, etc. — where your family may be at the

time of an emergency.

Know where to find information during an emergency. The National Weather Service disseminates up-to-date information via NOAA weather radio. Receivers are inexpensive ways to receive alerts that may give you time to escape or take shelter during a weather emergency. Wireless Emergency Alerts (WEA) send free text messages to WEA-enabled mobile devices within range of local emergencies. Check with your wireless carrier for information. Various free mobile apps are also available.

Make a plan

You and your family may not be together when

an emergency strikes. Plan ahead for ways to keep in touch, stay safe, and quickly reunite. Start with a simple escape plan from your own residence with a safe meeting place outside or at a nearby home. Practice that plan. Identify at least one safe destination away from your home should you need to evacuate for a period of days. Consider asking a friend or relative who lives some distance from you to be a point of contact for family to notify. There are some cases when it may be easier to text or call long-distance than to call across town.

Get a kit

Assemble a disaster supplies kit with basic items

your household may need in the event of an emergency. You may need to survive on your own after an emergency. This means having your own food, water and other supplies in sufficient quantity to last for at least 72 hours. Basic services such as electricity, gas, water, sewage treatment and telephones may be cut off for days or weeks. Your supplies kit should contain items to help you manage during these outages. Don't forget about special needs for infants, small children, the elderly, anyone on medication, pets and other animals. Also consider a "grab and go" kit with a few basic supplies that you can easily transport if you must evacuate quickly.

Our Air Force: 68 years of guts, innovation and air superiority

By Gen. Ellen Pawlikowski

Commander, Air Force Materiel Command

In 1911, a young Henry Arnold learned to fly at the Wright Brothers aviation school on a dusty field in Ohio. A strong advocate of aviation research and development, "Hap" Arnold went on to become a five-star general.

He made history. In 1918, Capt. Eddie Rickenbacker shot down 26 enemy aircraft over France during World War I. His skill and bravery earned him the Congressional Medal of Honor, and he went on to become an innovative aviation industry pioneer.

He made history. In 1942, then-Lt. Col. Jimmy Doolittle led 16

B-25 bombers, the Doolittle Raiders, on a secret mission to bomb the Japanese mainland just five months after the attack on Pearl Harbor. They modified their "land-based" Army Air Corps planes and learned to fly them from a Navy aircraft carrier.

They made history. These pioneer Airmen, like countless others, demonstrated the world-changing effects of aviation technology. They set high standards and relied on innovation and discipline to push the limits of their capabilities. Their guts, determination and skill were recognized on Sept. 18, 1947, when the Air Force became a separate service following President Harry Truman's signing of the National Security

Act earlier that year.

This week, we celebrate the 68th birthday of our Air Force -- 68 years of amazing technological advances, courageous human endeavors and an ever-evolving capability that protects our freedoms. From breaking the sound barrier to fielding stealth aircraft that are invisible to our adversaries, the Air Force has always been at the forefront of our national defense.

Our Air Force has evolved since 1947. Today, we patrol the domains of not just the air, but space and cyberspace, too. We are fielding the world's most advanced fighter aircraft, the F-35, while at the same time researching and developing ways to increase agility, flexibility, precision,

lethality and persistence for our missions of the future.

This is what we do in Air Force Materiel Command: deliver and support war-winning capabilities. When America calls on the Air Force, the Air Force turns to AFMC.

But we must become better at what we do, for our world today is a complex mix of rogue states and radical groups bent on destroying basic freedoms we and other nations hold dear. The best technologies don't develop and operate on their own. It is our people, military and civilian, who have made our Air Force the greatest air power in the world. Today, we rely on 660,000 people who come from diverse experiences, cul-

tures and communities throughout the United States. They truly represent a cross-section of America and it is their diversity that helps fuel our innovation and commitment.

Our Air Force heritage is a proud one, and airpower remains an inherent part of our nation's history. The legacy of our airpower pioneers -- imaginative and innovative Airmen harnessing new technologies and strategies -- set the course for future air, space and cyberspace capabilities.

As we celebrate the Air Force's 68th birthday, we realize our future is truly limitless. We must, and will, remain a force that provides global vigilance, global reach and global power.

Medical Aid Station closes temporarily

By Arnold AFB Medical Aid Station

The Medical Aid Station will be transitioning to the Core Side of the building Sept. 28 – Oct. 2. We will be preparing and moving during the office closure.

We will reopen for normal operations on Oct. 5. Please remember, our new location will be on the left hand side upon entering the main entrance of the Dispensary, building 225.

For more information call 454-5351.



Arnold AFB 2015 VA Picnic
Arnold AFB cordially invites our local veterans to the annual VA picnic to honor the Veterans from the Murfreesboro VA hospital.

9 October 2015
11:00 am - 4:00 pm
Arnold Lakeside Center (ALC)

RSVP at aedc.se.afsa@us.af.mil
Required Information:
Name/Rank • Branch of Service • Service Dates
Last day to sign up is 30 Sep 2015

EVENT PARKING will be at the Gossick Leadership Center (GLC). Buses will be used to transport from the GLC to the ALC every ten minutes starting at 9:00am. Security will be assisting to ensure successful traffic flow and limited delays of party attendees.

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, smoking is not permitted 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. 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 Team AEDC SharePoint site. 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.

Smoking, including the use of electronic cigarettes and smokeless tobacco, is prohibited in any area, at times when official business is being conducted with government clients, test customers, outside visitors and dignitaries, and where official business is being conducted including conference rooms, auditorium settings, business meetings, or in any other area where Air Force regulations specifically prohibit use. 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. Due to the nature, appearance, and safety concerns of electronic cigarettes (also known as "e-cigs"), the use of said products will abide by the same rules for tobacco products stated above and governed by AFI 40-102, *Tobacco Use in the Air Force*.

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 policy remains effective until rescinded. (This policy is dated December 20, 2013)

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 two ways: via the AEDC intranet home page, 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. Rodney Todaro
AEDC Commander

Powers and 'Ole Blue' retire together with 94 years of service

By Raquel March
ATA Public Affairs

Friday was the last work day at AEDC for Ray Powers, boilermaker, and Ole Blue, a 1949 Chevrolet 3100 half-ton pickup truck.

Powers retired after 37 years of service and Ole Blue provided transportation for 57 years for Powers and his late father Fred Powers, a retired AEDC ironworker.

"My father drove Ole Blue his first day at AEDC and I'm going to drive it my last day here as my grand finale," Powers said. "Ole Blue is retiring too with 57 years of service from 1958 to 2015."

Power's father drove the truck 84 miles round-trip from South Pittsburg, Tenn. When Fred joined a carpool he still drove the truck occasionally until Ray inherited the truck and he continued to make the 84-mile trip in the truck but not without some maintenance.

Ray restored the truck throughout the years which aided in its longevity.

Regarding his service at AEDC he said, "It has been a fantastic 37 years with many great relationships and experiences."



Retired AEDC boilermaker Ray Powers drove Ole Blue, a 1949 Chevrolet 3100 half-ton pickup truck, for the last time to work on Sept. 18, the day he retired. It was to commemorate the 57 years of service shared by Powers, his late father Fred, a retired AEDC ironworker, and Ole Blue. Fred is shown here beside the truck in the late 1960s. (Photo provided)



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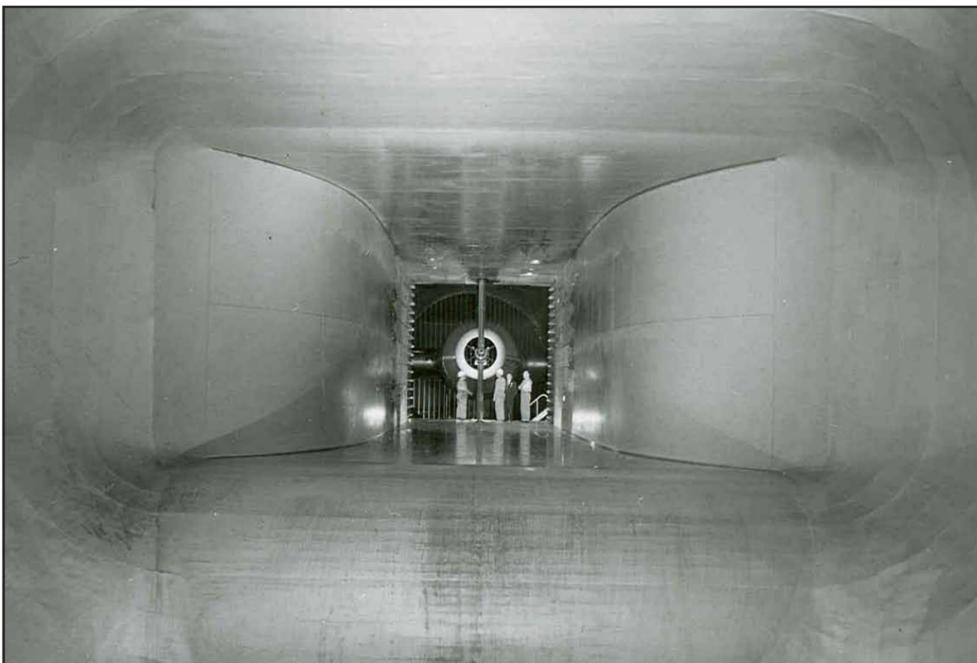
mechanical and electrical components such as gears, cams and synchros," Mills said. "An excellent example of this type system was the original tunnel 16T nozzle control system that used an electro-mechanical memory drum to store nozzle contour information."

The memory drum had the nozzle contour information needed to set the distance between two 54-foot-long and 0.85-inch-thick steel plate walls by setting into motion the gears, cams and synchros. The distance between the walls determines the speed of the air flow during a test that can range between Mach 0.05 and 1.6. Behind the steel plates are 15 pairs of positioning jacks which move the walls to the desired contour.

When the computer was in use in the late 1950s, 16T aerodynamic tests consisted of flight systems such as the T-38 Talon and Project Mercury.

There are plans to clean the computer and display it on base.

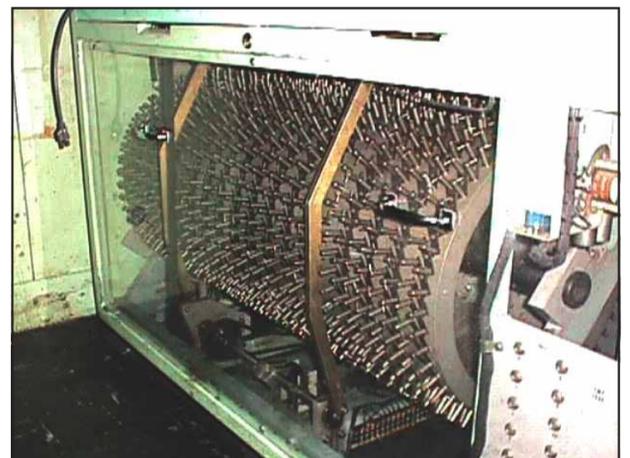
Any items found on base that are historically significant should be reported to the base historian at 454-4203.



The Propulsion Wind Tunnel (PWT) 16-foot Transonic Tunnel (16T) original nozzle control analog computer was recently discovered at the PWT 1-foot research and development tunnel (1T). The computer used an electro-mechanical memory drum shown here to store nozzle contour information that controlled the flexible nozzle in 16T for 44 years. (AEDC file photo)



This Propulsion Wind Tunnel (PWT) 16-foot Transonic Tunnel (16T) original nozzle control analog computer was discovered at the PWT 1-foot research and development tunnel (1T). The computer controlled the flexible nozzle in 16T for 44 years. (AEDC file photo)



This 1957 photo shows the Propulsion Wind Tunnel (PWT) 16-foot Transonic Tunnel (16T) flexible nozzle with steel plate walls that were controlled by a nozzle control analog computer. The original computer, used for 44 years, was recently discovered in the PWT 1-foot research and development tunnel (1T). (AEDC file photo 57-143)

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"Generally, scarf repairs are the method of choice," he said. "First, the damage must be ground out. This means that layers of the composite material must be removed around the damage in a conical shape; larger the damage, the larger the area that will need to be ground down to make an adequate repair."

Blair added that new layers of composite material are

cut from a roll of dry material or a roll of pre-impregnated or pre-preg material, which is fabric that comes pre-impregnated with resin.

"If dry material is chosen, the Blade Shop personnel choose an appropriate epoxy resin to wet the dry repair fabric. They place the composite fabric in the proper orientation, brush on the resin, and then squeeze out

the excess resin. Using prepreg material, Blade Shop personnel only have to set the material in the proper orientation and avoid squeezing out excess resin."

Once the composite material has been satisfactorily applied, an air-tight plastic bag is attached to the surface around the repair. A line from a vacuum pump is attached to the bag to pull a vacuum

inside the bag so that full atmospheric pressure will be evenly distributed across the repair. After that, the composite component is placed in a large electric oven and baked at a predetermined temperature for a predetermined amount of time. This allows the resin to cure, creating a permanent repair."

Once this process is complete, the component

can be removed from the oven and placed back into service after minor clean up.

The Blade Shop has also played a role in composite repair efforts across Arnold Air Force Base. Other work includes repairing composite rotor blades located in the cooling towers and repairing fiberglass components of the motors and pumps located at the Com-

plex's secondary pumping station.

"The PWT Blade Shop is one of the many assets at AEDC that make the complex unique and the immediate access to the composite repair technicians reduces lost test time, saves money and ensures AEDC's reputation as the premier flight simulation facility in the world," Blair said.

AEDC STEM assisting area schools with hands-on learning tools and activities



At the Science, Technology, Engineering and Mathematics Center open house, STEM coordinator Jere Matty, center, shows Barbara Birdsong, front, and Carole Thomas, in back, how the bell jar can simulate the vacuum atmosphere of space. (Photo by Jacqueline Cowan)

By Deidre Ortiz
ATA Public Affairs

Students are back in school and Arnold Engineering Development Complex's Science, Technology, Engineering and Mathematics Program coordinator is prepared to provide interactive learning for teachers and students in kindergarten through twelfth grade.

"The program's mission is to inspire and develop student interest in STEM-focused careers," Jere Matty, AEDC STEM coordinator, said.

AEDC STEM staff assists in matching hands-on activities with the school's curriculum and schedules speakers to visit classes at regional schools and discuss a specific program of study.

In addition to this, a STEM Center equipped with hands-on demonstrations ranging from flight dynamics and robotics, to constellations and moon colonies is available at Arnold Air Force Base. The AEDC STEM Center opened its doors in the fall of 2012.

An open house event

was recently hosted at the STEM Center inviting members of the public, AEDC engineers and future volunteers the opportunity to see what is offered at the site, such as a flight simulator, static and portable wind tunnels, rocket launchers, a bell jar that demonstrates space conditions and the Discovery Dome, a portable facility which provides a full planetarium experience with surround sound and videos tailored to grade level.

During the open house, Matty spoke on the vari-

ous extracurricular learning opportunities provided through the AEDC STEM program.

He provided details on MATHCOUNTS®, a national enrichment, club and competition program that promotes middle school mathematics achievement.

"The program heightens student interest in mathematics by making math achievement challenging and exciting," Matty said.

At the beginning of each school year, the MATHCOUNTS Foundation provides a complimentary copy of the MATHCOUNTS School Handbook to every middle

school across the country. Teachers and volunteers use the handbook and activities to coach student Mathletes, as part of in-class instruction or as an after-school activity.

The For Inspiration and Recognition of Science and Technology program, is another activity many elementary, middle and high schools participate in that's assisted by STEM. The vision statement of the FIRST program is «To transform our culture by creating a world where science and technology are celebrated and where young people dream of becoming science and technology lead-

ers." It's composed of Junior FIRST Lego League® for elementary schools, FIRST Lego League for elementary and middle schools and FIRST Tech Challenge for High Schools.

"The FIRST LEGO League is a partnership between FIRST and The LEGO Group that helps young people discover the fun in science and technology while building self-confidence, knowledge, and valuable employment and life skills," Matty said. "It's a robotics program for youth ages nine to 15."

See STEM, page 5

AFMC promotes Mental Fitness Awareness Campaign

By Air Force Materiel Command Health & Wellness Team

WRIGHT-PATTERSON AIR FORCE BASE, Ohio – During the fall months, Air Force Materiel Command will promote its Mental Fitness Awareness Campaign. According to *Comprehensive Airman Fitness* (AFI 90-506), mental fitness is defined as the ability to effectively cope with unique mental stressors and challenges. One way to keep on top of your mental fitness is to understand anxiety.

Anxiety can be a motivator or response to the anticipation of an event, with symptoms like butterflies in your stomach, rapid breathing or a pounding heart. All of us worry about

issues like relationships, health or money and have experienced brief anxiety caused by stressful events such as public speaking or a job furlough.

But some people may experience anxiety that is persistent, uncontrollable and overwhelming. If it is an excessive, irrational dread of everyday situations, it can be disabling. When anxiety interferes with daily activities, you may have Generalized Anxiety Disorder.

According to the National Institute of Mental Health, signs and symptoms of GAD include:

- Persistent worry about everyday things
- Inability to concentrate
- Insomnia
- Difficulty relaxing



- Headaches, muscle aches, stomach aches or unexplained pains
- Irritability, excessive sweating, feeling lightheaded or out of breath
- Having to go to the bathroom a lot

If you are experiencing some of these symp-

oms consistently, for at least two weeks, you may be interested in an anxiety screening. An anonymous and confidential mental health screening is offered on our website, AFMC-wellness.com. Screening results are educational, not diagnostic, but are provided so participants may

quickly and easily find out if a professional consultation would be helpful.

“Mental fitness assistance programs and services are available to members of the AFMC workforce and their families who are dealing with anxiety issues” said Lt. Colonel William Hubbard,

AFMC Chief of Behavioral Health. “This includes professional counselors, clergy and health care providers.”

Military OneSource is an option for military members, spouses and dependents. For more information, call (800) 342-9647 or visit militaryonesource.mil. Active duty may also contact their local mental health clinic for services.

Civilian employees can contact the Employee Assistance Program for free, confidential counseling services at (800) 222-0364 or via the EAP website at FOH4You.com.

For more information about anxiety education materials, visit AFMC-wellness.com or contact your local Civilian Health Promotion Services team.

STEM from page 1

As part of FIRST LEGO League, student groups work together program an autonomous robot, using the LEGO® MINDSTORMS® robot set, to score points on a thematic playing surface, creating an innovative solution to a problem as part of their project.

Another program AEDC STEM supports is the CyberPatriot competition, a national high school cyber defense competition created to inspire high school students toward careers in cybersecurity or STEM fields. Competing students are provided one to three virtual machines that reveal several vulnerabilities they must identify and defend against.

But the community outreach doesn't stop there, area students can also be part of the STEM Aviation Program, the NASA Human Exploration Rover Challenge as well as other science camps and competitions.

Overall, AEDC STEM supports 18 programs within 50 schools, reaching a total of 10,750 students in the Middle Tennessee area.

Because it takes a lot of people to make all these programs successful, Matty commends the volunteers who ensure schools are receiving the support they need.

«Our volunteers are the heart and soul of the AEDC program,» he said. “We wouldn't be able to do all that we do without them.”

Matty also mentioned that additional volunteers are always welcomed.

If interested in volunteering, scheduling a visit to AEDC's STEM Center or scheduling a STEM visit from AEDC to an organization, please go to www.arnold.af.mil/stem.



Those attending the AEDC STEM Center Open House had the chance to learn about the different equipment used as part of STEM's robotics programs, which help students to develop analytical and problem solving skills. Local competitions are also held each year giving the students the chance to put their programming knowledge to the test. Pictured left to right are Carole Thomas, Jere Matty, Jack Ly and Stefan Lindorfer operating the robots. (Photos by Jacqueline Cowan)



Barbara Birdsong, Stefan Lindorfer and Jack Ly learn how to use hands-on learning equipment available at the AEDC STEM center. Here they try out the rocket launchers that schools can use as part of their STEM learning programs.

AEDC Woman's Club presents Irish flair at Oct. 6 meeting

By Barbara McGuire
AEDC Woman's Club

The AEDC Woman's Club (AEDCWC) will present the Triquetra Irish Step Dancers and One Random Guy during its Oct. 6, 10 a.m. meeting at the Arnold Lakeside Center.

This creative family group enjoys performing together, giving audiences an Irish flair with a surprise twist.

Table donations at the September meeting of \$125 went to The Motlow Ladies Philanthropic Society. The donations at the October meeting will go to Five Loaves for Kids.

At the September meeting Sculptor Tracy H. Sugg demonstrated by video her wonderful work creating military sculptures. She had two portrait bust sculptures on display plus an oil painting titled, "Gen. Kosciuszko in his Garden at West Point."

The AEDCWC members were also introduced to the new AEDC Base Com-

mander Col. Rodney Todaro and his wife Karen, who will serve as the club's honorary president. Commander Todaro told a little about himself and his family.

The October meeting is open to the public and provides the opportunity to meet the AEDCWC members and become a member. You don't need to have military connections or be involved with Arnold Air Force Base to become a member. For membership information call 455-3569.

The social hour of the meeting starts at 9:30 a.m. with the business meeting and program beginning at 10 a.m.

Reservations and cancellations for the meeting must be made no later than noon, Aug. 25. Make reservations or cancellations by calling 393-2552 or 931-636-4152.

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



Pictured left to right are AEDC Woman's Club members Kelly Doyle, Karen Todaro, Suzie Schultz, and speaker and artist Tracy H. Sugg with her sculpture and Hudson River School style oil painting at the AEDCWC meeting Sept. 1 at the Arnold Lakeside Club. Sugg's sculptures and bronze monuments can be viewed on her website www.tracyhsugg.com. (Photo provided)

Suicide Prevention Month: How one person can make a difference

By Katie Lange
DoD News, Defense
Media Activity

FORT GEORGE G. MEADE, Md. (AFNS) – Thoughts of suicide are not necessarily something people explicitly announce to the world, which means loved ones often have no idea that their friend or family member is contem-

plating it. But there are signs and risk factors, and while somebody might think they can't make a difference by themselves, that's wrong. Experts say that's sometimes all it takes.

That's the point of the Power of 1 campaign, launched by the Defense Department and Department of Veterans Affairs

in observance of Suicide Prevention Month.

"One smile, one conversation, one comment, one caring gesture toward somebody at risk can make a difference in their experience and perhaps instill hope and get them to help," said Dr. Keita Franklin, the Defense Suicide Prevention Office director.

The number one thing to know: Suicide is preventable. Warning signs are just missed sometimes.

"Inevitably, we always know that somebody has told somebody that they were struggling," Franklin said of her office's research. "Unfortunately, that person may not have known the extent of the risk."

To be better prepared, here are some of the signs you can look for:

- Expressing sadness often Anxiety and agitation
- Deteriorating physical appearances and neglect of personal welfare
- Sleeping all the time, or

having trouble sleeping

- Withdrawing from friends and family
- Losing interest in hobbies; loss of appetite
- Performing poorly at work or school
- Dramatic and frequent mood changes
- Acting recklessly; showing violent, self-destructive behavior
- Expressing feelings of guilt, shame or failure
- Desperation – feeling like there's no way out or no solution to the problem
- Giving away prized

possessions

- Making out a will or otherwise getting his or her affairs in order
- Trying to secure weapons, pills or other things that can be used for harm

Common risk factors for suicide include relationship, financial or legal struggles.

Franklin said a big part of suicide prevention in the military is making sure those at risk feel like they belong and are valued in their roles. That means making sure the at-risk person knows his or her chain of command cares and is willing to help – that it's OK to not be OK.

This day in espionage history

By AEDC Industrial
Security

Sept. 21, 2001 – Ana Belen Montes arrested and charged with conspiracy to commit espionage for the government of Cuba

Sept 24, 1997 – Robert Stephan Lipka sentenced to 18 years in Federal prison

❖ National Security Agency (NSA) staff member

❖ Feb. 23, 1996 arrested

and charged with committing espionage while working as a communications clerk from 1964 to 1967

❖ Sold Top Secret NSA reports which included U.S. troop movements around the world

❖ May 23, 1997, pleaded guilty to one count of espionage in exchange for a jail term of no more than 18 years

Sept. 25, 1196 – Robert Chaegun Kim charged

with passing classified information to a foreign country

❖ Navy civilian computer specialist working at the Office of Naval Intelligence

❖ Over a five-month period, Kim passed dozens of classified documents out of loyalty to his country of birth (Korea)

❖ May 7, 1997, pleaded guilty to one count of conspiracy to commit espionage

❖ July 11, 1997 sentenced to nine years in prison

Sept. 27, 2001 – George Trofimoff convicted of espionage, sentenced to life imprisonment

Sept. 30, 1986 – Gennadiy F. Zakharov pled no contest to espionage charges, ordered to leave the country within 24 hours

Oct. 3, 1983 – Jeffery Loring Pickering pled guilty to violations including espionage, sentenced to five years hard labor

Oct. 4, 1991 – Douglas Tsou found guilty of espionage, sentenced to 10 years in prison

FootGolf installed at Arnold Golf Course, kicks off Sept. 25

By Tanya Bryan
Arnold Services Office

Arnold Golf Course will debut FootGolf on Sept. 25 with free open play beginning at 3 p.m. and a ribbon cutting ceremony at 4 p.m.

There will be \$1 hamburgers and hot dogs throughout the evening. A best decorated ball competition will be held with the winner receiving five free rounds of FootGolf.

FootGolf is a new program at Arnold Golf Course that follows the basic rules of golf while using a soccer ball to kick into holes. It is a combination of golf and soccer and played by kicking a soccer ball on a golf course with the objective of getting the ball into an oversized (21-inch diameter) hole in the fewest amount of kicks. It's 99 percent golf minus the equipment.

There is no age restriction as long as pace of play is maintained. It is fun for the whole

family, less expensive, great exercise, plays faster than golf and the only equipment required is a number five soccer ball. FootGolf participants may bring their ball decorated to fit their style or rent from a limited supply in the Arnold Pro Shop for \$3.

The course will consist of 18 holes intertwined within the nine holes of golf. Tees and holes are placed along the edges as not to interfere with regular golf play. Green fees are \$8 for 18 holes and a junior rate for ages 17 and under are \$5.

Cart use is allowed with FootGolf but it is quicker to walk because you aren't hitting the soccer ball as far as you would a golf ball. Walking also encourages exercise and the endurance component of the game. You may rent a cart from the Pro Shop for \$7.

Standard golf attire or current acceptable soccer attire is appropriate. A trademark of FootGolf attire is wearing knee

high argyle socks which exhibit a bit of the golfer's style. This style is not required for everyday play but it is required for official United States FootGolf Association and State Association tournaments and events. Arnold Golf Course Pro Shop has several different designs of knee high socks to add some flair to your attire. They also have other items suitable for soccer play to include custom FootGolf soccer jerseys. Shoes recommended for playing FootGolf are indoor or turf soccer shoes. No cleats are allowed.

Golfers and FootGolfers may play simultaneously throughout the day however; there may be times it is designated strictly for one or the other depending on tournament schedule or league play. All players of FootGolf and golf are reminded to observe rules of etiquette at all times on the course. Unlike many sports, FootGolf and golf are played, for the most part, without the su-

pervision of a referee or umpire. The game relies on the integrity of the individual to show consideration for other players and to abide by the rules. All players should conduct themselves in a disciplined manner, demonstrating courtesy and sportsmanship at all times.

To start a game of FootGolf, check in at the Pro Shop and you will be provided with information and a score card. You will be directed to the first hole and from there the course will be marked throughout the 18 holes.

Arnold Golf Course Pro Shop is open 7 a.m. to 7:30 p.m. April through October and November through March 9 a.m. to 5 p.m., Monday through Friday and 8 a.m. to 5 p.m. Saturday and Sunday.

Arnold Golf Course is located on Wattendorf Highway near Tullahoma and is open to the public. Mulligan's Grill at Arnold Golf Course offers bev-

erages, snacks or meals. Mulligan's Grill is open 10:30 a.m. to 2 p.m. Monday through Friday and 7 a.m. to 2 p.m. Saturday and Sunday serving breakfast until 10:30 a.m. Call ahead to 454-FOOD for advance or to go orders.

For more information about Arnold Golf Course or FootGolf call 454-GOLF or check any of the following:

Facebook
– ArnoldAFBservices
Instagram
– ArnoldAFBservices
www.usfootgolf.org
or www.afgl.us
#kickgrass
#footgolf
#arnoldgolfcourse
#arnoldafbservices

First operational F-35As arrive at Hill AFB



An F-35A Lightning II aircraft passes under a water arch at Hill Air Force Base, Utah, Sept. 2. The jet and another F-35A, the first of the Air Force's newest fifth-generation fighter aircraft to arrive at the base, were delivered by Col. David Lyons, 388th Fighter Wing commander, and Lt. Col. Yosef Morris, 34th Fighter Squadron director of operations. The rest of the fleet of up to 72 F-35s will be coming in on a staggered basis through 2019. The 388th and 419th Fighter Wings at Hill were selected as the first Air Force units to fly combat-coded F-35s. (U.S. Air Force photo/R. Nial Bradshaw)



Col. David Lyons, 388th Fighter Wing commander, speaks to Airmen, civic leaders and media after delivering an operational F-35A Lightning II aircraft to Hill Air Force Base, Utah, Sept. 2. Lyons, along with Lt. Col. Yosef Morris, 34th Fighter Squadron director of operations, delivered the first two jets, known as AF-77 and AF-78, at approximately 1 p.m. MDT after a 90-minute flight from the F-35 production facility in Fort Worth, Texas. These aircraft are the first two of up to 72 jets that will be assigned to both the active-duty 388th and Reserve 419th Fighter Wings at Hill. (U.S. Air Force photo/Ron Bradshaw)

By Micah Garbarino
75th Air Base Wing Public Affairs

HILL AIR FORCE BASE, Utah – The Air Force ushered in a new era of combat air power today as Hill Air Force Base received the service's first two operational F-35As.

Hill's active duty 388th Fighter Wing and Reserve 419th Fighter Wing will be the first combat-coded units to fly and maintain the Air Force's newest fifth-generation fighter aircraft.

"Make no mistake, we're built for this. We will deliver the combat capability that our nation so desperately needs to meet tomorrow's threats," 388th Fighter Wing commander, Col. David B. Lyons, told the crowd of Airmen and community members.

Lyons, who flew one of the F-35s to Hill from Lockheed Martin's production facility in Fort Worth, Texas, highlighted the jets stealth ability, advanced technology, avionics and sensor fusion, which allow pilots the flexibility to operate in "contested environments" and strike "tough to reach"

targets.

Hill has been called the "ideal home" for the F-35 because of its proximity to the Utah Test and Training Range and Hill's Ogden Air Logistics Complex, which performs F-35 depot maintenance and modifications. The integration of the active duty and reserve fighter wings provides increased flexibility and combat surge capability.

"This is a great day in the history of Hill Air Force Base. We have to have these aircraft to achieve air dominance in the future for the United States," said Col. Bryan Radliff, 419th Fighter Wing commander. "We are extremely proud to be a part of this association."

Since the basing announcement in 2013, Hill has spent more than \$120 million and completed numerous renovation and construction projects to prepare for F-35 operations.

"The reason we're here today is because of our Airmen, civilians, contractors and outstanding community who stood behind us 100 percent," said Col. Ron Jolly, 75th Air Base Wing commander. "We know the

capabilities of this aircraft. We are on the cutting edge and we're very proud to be a part of that cutting edge."

The 388th and 419th Fighter wings were also the first units in the Air Force to fly combat-coded F-16s when they entered the fleet.

The wings will receive one to two F-35s per month until 72 aircraft have been delivered.

Airmen at Hill are eager to get their hands on the new jet said Lt. Col. Darrin Dronoff, chief of the F-35 program integration office for the 388th FW.

Both the 388th and 419th have trained F-35 pilots ready to begin flying the new jets, and there are more pilots and maintainers currently in training.

The wings will take a week to familiarize themselves with the aircraft, receive parts and begin tracking the aircraft in a maintenance database.

"The plan is to start flying after Labor Day. We'll start by flying twice a week, but that will slowly progress as we receive more aircraft and training progresses," said Dronoff.

While flying won't start for a week, training for maintainers starts immediately – including the Airmen who will be towing the first aircraft from the ramp to the hangar, Dronoff said.

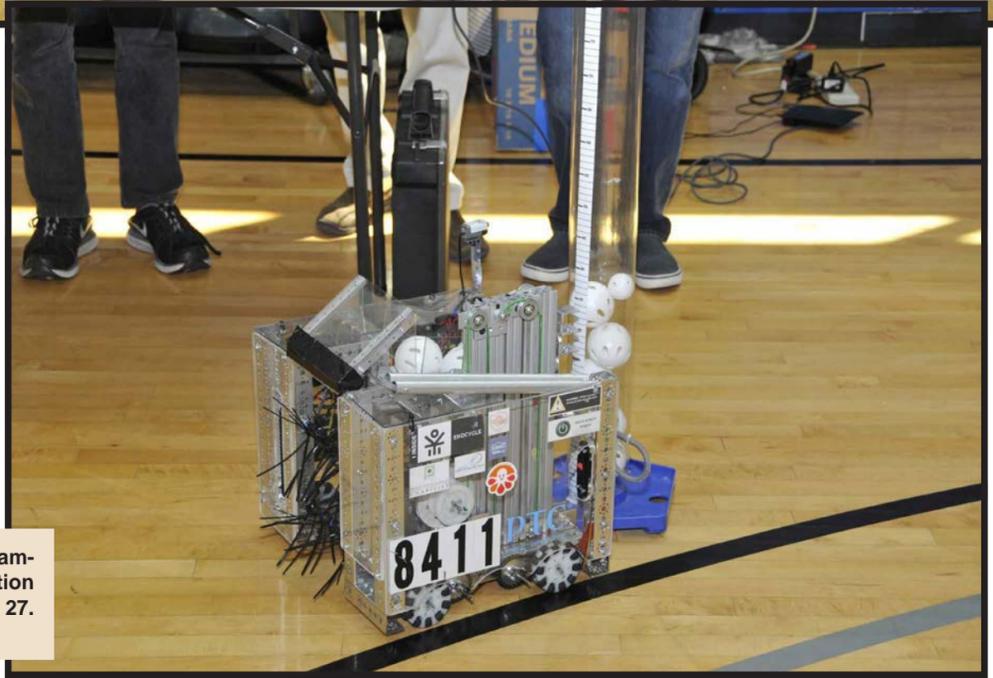
"Everyone touching the aircraft is a formally trained F-35 Airman – hand-selected crews from pilots to maintainers to back-shop people," said Dronoff. "But, we're also training Airmen brand new to the F-35. We're taking advantage of every training opportunity because this is the first time many of them have had their hands on an F-35."

The base will hold a formal ceremony to commemorate the arrival of the F-35 in mid-October.

FTC® Robotics Team SHARP gives a demo at Arnold



Spring Hill Area Robotics Players FIRST Tech Challenge® (FTC) Robotics team gave a demonstration of their robot at Arnold Air Force Base on Aug. 27. Team members pictured left to right are Emily Palacios, Julia Palacios, Joseph Palacios, Jarett Ward, Cameron Frazier and Alex Swafford. The team from Maury and Williamson counties, received support from the AEDC Science, Technology, Engineering and Math (STEM) Center. FTC robotics students learned more about the engineering processes of developing ideas, planning, designing, building, programming, evaluating solutions and reiterating to make improvements throughout the competition season. (Photo by Jacqueline Cowan)



A FTC robot made by SHARP, from Maury and Williamson counties, is pictured here before a demonstration conducted at Arnold Air Force Base, Tenn. Aug. 27. (Photo by Jacqueline Cowan)



ALC – Arnold Lakeside Center, 454-3350
 Café – Café 100, A&E, 454-5885
 ODR – Outdoor Recreation, 454-6084
 RRRP – Recycling, 454-6068
 Marketing/Sponsorship – 454-3128
 Barber Shop – 454-6987

GC – Arnold Golf Course, 454-GOLF
 MG – Mulligan's Grill, GC, 454-FOOD
 FC – Fitness Center, 454-6440
 WI – Wingo Inn, lodging, 454-3051
 Resource Management – 454-7425
 Admin – 454-7779

October 2015

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	
<p>#kickgrass Arnold Golf Course FootGolf <i>where soccer and golf come together</i> 18 holes intertwined on the 9 hole golf course \$8 \$5 Junior rate \$7 cart fee \$3 ball rental 454-GOLF <i>Open to the Public</i></p>				<p>1 Movie: The Avengers: Age of Ultron</p>	<p>2 ALC: First Friday Jam 6pm</p>	<p>3 </p>	
4	5	6	7	<p>8 Movie: Ant-Man</p>	<p>9</p>	<p>10 ODR Archery Class \$8 age 10+ 10am-noon Sign up by Oct 6 </p>	
11	12 CAFE: Closed	13	14 FC: Five Card Draw Complete Fitness Trail anytime between 8am-4pm and pick up cards along the way Top 3 hands of the day win prize	<p>15 ALC: Brushes & Bottles \$25 GLC 6pm Sign up by Oct 9 </p>	16	17	
<p>ALC Dining Room Thu 5-8pm Fri 5-9pm Sat 5-9pm</p>				<p>21</p>	<p>22 Movie: Tomorrow Land</p>	<p>23</p>	<p>24</p>
18	19	20	21	<p>22 Movie: Inside Out</p>	<p>23</p>	<p>24</p>	
25	26	27	28	<p>29 Movie: Club Closed Come to ODR Fright Fest at Crockett Cove for outdoor movie and more!</p>	<p>30 ALC: Last Friday Trivia 6:30pm</p>	<p>31</p>	

Arnold AFB Services

LIKE us
 on Facebook
 and receive updates



Outdoor Rec
Fright Fest
Crockett Cove costume contests (*kids & adults*),
 outdoor movie (*Minions*),
 bonfire, weenie roast,
 s'mores, spooky trail

Oct 29 6-9pm
 \$10 \$5 age 6-12 under age 6 free

Call 454-6084 to sign up



Enter a skit for the
Scary Trail Competition

1st place \$100 CASH!
 2nd place \$75 Services Gift Card
 3rd place \$50 Services Gift Card

