



HIGH MACH

Serving the World's Premier Flight Simulation Test Complex



Vol. 69, No. 20

Arnold AFB, Tenn.

PRSRT STD
US POSTAGE PAID
TULLAHOUMATN
PERMIT NO. 29

October 24, 2022

Building upon success, Tunnel 9 team looks to take 3D printing program to next dimension

By Bradley Hicks
AEDC Public Affairs

WHITE OAK, Md. – It started with a piece here, a small part there.

But since its inception in the facility, additive manufacturing, more commonly known as 3D printing, has evolved and blossomed at Arnold Engineering Development Complex Hypervelocity Wind Tunnel 9 in White Oak, Maryland. From plastic rigs to elements vital to tunnel operations, a multitude of components can now be fabricated in-house.

“The success of AM at Tunnel 9 is exciting to say the least,”

said Tunnel 9 system and nitrogen supply engineer Samuel Gigoli. “The plastic prototyping is a growing interest here, as more and more people are coming to me with an interest or a need for 3D printing parts. We can spit out parts in a matter of hours rather than weeks. Whether it is a test fit piece or a prototype part, the process greatly speeds up our operations and can greatly impact Tunnel 9’s mission success.”

And this may be just the beginning.

Around seven years ago, Tunnel 9 acquired its first 3D printer – a small filament-based device that could be used to

quickly churn out some uncomplex plastic parts. However, this “hobby” printer would soon find its way to storage as the prints coming from it were unsuccessful.

In 2019, during his first summer working at Tunnel 9, Gigoli was tasked with reviving the printer capabilities. This included ordering new parts, filament and materials for the apparatus. The second round with the printer proved to be more successful than the first. Following its reintroduction, AM at Tunnel 9 was used primarily to manufacture plastic mounting rigs, fixtures,

See **3D PRINTING**, page 4



Pictured is a petal orifice liner created at Arnold Engineering Development Complex Hypervelocity Wind Tunnel 9 in White Oak, Maryland, using additive manufacturing, otherwise known as 3D printing. The refractive metal part has an outside diameter of around 3 inches, an inside diameter of around 2 inches and is nominally 3 inches in length. (U.S. Air Force photo)

AEDC team members look back on historical contributions during 70th anniversary of first wind tunnel



The main tunnel control valve of the 1-foot transonic wind tunnel, 1T, at Arnold Air Force Base, is pictured here to the left, and from there the air flows to the test section. In October 1952, 1T was the first operational wind tunnel at Arnold. (U.S. Air Force photo)

By Deidre Moon
AEDC Public Affairs

On Oct. 21, 1952, supersonic airflow was first achieved at, what was then known as Arnold Engineering Development Center, when the first wind tunnel was placed in operation.

The tunnel, known as Transonic Wind Tunnel 1T, provided the Arnold Engineering Development Complex with a 1-foot transonic test capability at Arnold Air Force Base.

Reaching this 70-year milestone, AEDC team members, and especially those with the 716th Test Squadron, reflected on the historical contributions of 1T, also referred to as “PeeWee.”

“Tunnel 1T was a 1/16th scale copy of the test leg of the larger 16-foot transonic tunnel that was under construction at the time,” said Mike Mills, an AEDC Fellow and subject matter expert for the 716 TS.

The construction of 1T, which began February 1952, was initially justified to confirm design decisions made for the 16-foot transonic wind tunnel 16T and to serve as a test unit for training operating crews. Parts of 1T were shipped to Arnold from Germany after World War II, while other parts of the tunnel were fabricated on base.

According to a 2017 report by Mills and AEDC team members Wesley Brueland and William Stevens, the results obtained in the tunnel “have left their mark on AEDC and wind tunnels around the world.”

“However, its value beyond the initial intent was quickly recognized, and in the 43 years of operation, tunnel 1T made major contributions to AEDC and wind tunnel technology in general,” the paper states. “Most notable was the use of the tunnel 1T to develop and refine the transonic porous wall configuration still used today, not only at AEDC but

in wind tunnels around the world.”

Additionally, research on sting support interference and vibration, large blockage model studies, and experimental and high-risk setup verification were accomplished using 1T.

Tunnel 1T was used as a relatively inexpensive tool to identify problems and develop a solution. In the 1980s, aerodynamic configurations of the tunnel 16T High-Angle Automated Sting and Captive Trajectory System were both developed in tunnel 1T. Modifications to the 16T diffuser and scavenging system were developed by testing in 1T.

“The modifications to 16T resulted in an estimated 8% reduction in energy consumption of 16T in fiscal year ‘84 alone,” Mills said. “This benefit has continued to accrue over the 37 years since the modifications were made.”

From initial operations in 1952 un-

See **ANNIVERSARY**, page 4

AEDC team members win at AFMC-level of Science, Engineering and Technical Management Awards

By Deidre Moon
AEDC Public Affairs

Arnold Engineering Development Complex Commander Col. Randel Gordon announced the winners from AEDC of the Air Force Materiel Command Science, Engineering and Technical Management Awards.

Nomination packages are evaluated in three areas: operational impact, innovative improvements and customer focus.

“Each of AEDC’s DOD and civilian and military winners have excelled in all of these areas,” Gordon said in an email Sept. 16 to the AEDC workforce.

- **Senior Military Scientist/Engineer:** Lt. Col. Paul F. Dolce – formerly 846th Test Squadron
- **Technical Management – Team:** Combat Air Forces Engine Modernization Test Team – 717th Test Squadron. Team members include Nicole Prieto, Stephen Arnold, 1st Lt. Ryan Blount, Capt. Brian Gatzke, Bryon Harrington, 1st Lt. Paul McCormack, Ronald Munn, Joel Nalin, Lewis Pumpelly, Jillian Sears, Justin Thomas and Joshua Tuckey.

Gordon congratulated the winners, as well as those who were nominated.

“This is a well-deserved recognition of AEDC’s outstanding technical workforce,” he said.

The AEDC winners will now compete for the Air Force-level SE&TM awards.

In This Issue....

DOD takes action to make moves easier for service members, families

...Page 2

Department of Defense action lowers prices on most commissary items

...Page 2

Arnold AFB holds Sports Day

...Page 3



HIGH MACH

Arnold
Air Force
Base



Col. Randel Gordon
Commander

Jason Austin
Chief,
Public Affairs



Wayne Monteith
General Manager,
National Aerospace
Solutions

High Mach Staff:
Darbie Sizemore
NAS Executive Editor

Jill Pickett
NAS Editor

High Mach is published by Lakeway Publishers, Inc. a private firm in no way connected with the U.S. Air Force, Arnold Air Force Base, Arnold Engineering Development Complex (AEDC) or National Aerospace Solutions (NAS), under exclusive written contract with NAS at Arnold AFB, Tenn., 37389.

Everything advertised in this publication will be made available for purchase, use or patronage without regard to race, color, religion, sex, national origin, age, marital status, physical handicap, political affiliation or any other non-merit factor of the purchaser, user or patron.

The *High Mach* office is located at 100 Kindel Drive, Suite A236, Arnold AFB, Tenn. 37389-1236. Editorial content is edited and prepared by NAS. Deadline for copy is Wednesday at close of business one week before publication.

This commercial enterprise newspaper is an allowable NAS contractor publication for personnel at Arnold AFB.

The content of *High Mach* does not necessarily reflect the views of the Air Force, Arnold AFB, AEDC or NAS. The appearance of advertising in this publication does not constitute endorsement of the products or services advertised by the Department of Defense, the Department of the Air Force, Arnold AFB, AEDC, NAS or Lakeway Publishers, Inc.

For general information about *High Mach*, call 931-454-5655 or visit www.arnold.af.mil.

Use *High Mach* to market your products and services. Contact Joe at 931-455-4545 or jmartin@tullahomanews.com

Arnold Junior Force Council Booster Club is collecting food donations for Thanksgiving Basket Program



Arnold Engineering Development Complex team members Paula Lyle and Seth Markum organize food items donated to the Junior Force Council Booster Club's Thanksgiving Food Basket Program Nov. 19, 2021, at Arnold Air Force Base. This year, the food drive will end on Nov. 11. The food donations are then taken to Deerfield Elementary to be distributed to students. (U.S. Air Force photo by Deidre Moon)

By Deidre Moon
AEDC Public Affairs

The Junior Force Council Booster Club at Arnold Air Force Base is organizing a food drive to collect donations as part of its annual Thanksgiving Basket Program.

The drive, which provides food to Coffee County families in need of Thanksgiving meals, will run from Oct. 24 through Nov. 11.

Collection boxes will be placed in the lobbies of several buildings across base.

Last year, the club surpassed its goal, collecting enough non-perishable food items for a total of 62 food baskets.

Adam Moon, this year's JFCBC president, stated that the success of past food drives is due to the support from the community and AEDC family.

"Team AEDC really shows out for this food drive every year, and we can't thank everyone enough who has donated and who plans to continue donating to this effort," he said. "The Junior Force Council Booster Club wouldn't be able

to do this each year without you."

The Thanksgiving Food Basket Program at Arnold got its start when members of the Coffee County Backpack Program for Deerfield Elementary School in Manchester approached JFCBC members about collecting food items for the holiday.

The Backpack Program is a local charity that provides food to students who may not have provisions during tough economic times. Through this program, children in need receive a backpack with enough food to feed them

through each weekend during the school year. As an extension of the Backpack Program, the Thanksgiving Food Basket Program is meant to provide enough food to help a family prepare a Thanksgiving meal.

For more information about the program, where to donate or how to help, call 931-454-4248.

Disclaimer: The Junior Force Council Booster Club is a private organization, which is not part of the Department of Defense or any of its components and has no governmental status.

DOD takes action to make moves easier for service members, families

By AEDC Public Affairs

In an effort to ease the strain that frequent moves can put on the budgets of service members and their families, Secretary of Defense Lloyd J. Austin III directed an increase to the dislocation allowance and extension of the temporary lodging expense.

The dislocation allowance, a single payment intended to cover costs incurred when relocating

a household for a permanent-change-of-station, or PCS, move, was increased effective Oct. 1 for service members in pay grades E1 to E6.

Other changes to the DLA payments include making them automatic for all service members. The payment also will be paid one month prior to the move so the recipient can avoid out-of-pocket expenses.

The temporary lodging ex-

pense, or TLE, payment to cover the cost of temporary lodging during a PCS move, has been extended from 10 days to 14 days for PCS moves within the continental U.S. and from five days to seven days for moves from the continental U.S. to locations outside the continental U.S.

TLE is intended to offset the costs of housing and meals while service members and their families are in temporary housing but may

not cover all expenses incurred.

TLE extensions for up to 60 days also have been authorized for service members experiencing a housing shortage.

Both TLE changes became effective Oct. 1.

Services members making a PCS or other military move can access information to assist with the process at <https://www.militaryonesource.mil/moving-housing/moving/pcs-and-military-moves/>.

Department of Defense action lowers prices on most commissary items

By AEDC Public Affairs

The Department of Defense recently announced that it will fully fund the nearly 240 commissaires around the world operated by the Defense Commissary Agency, allowing savings to be passed on to commissary patrons.

Changes to the commissary funding model are part of the DOD "Taking Care of Service Members and Families" initiative unveiled in September. The DOD will allocate more funds to subsidize commissary prices, an action that eliminates the requirement for DeCA to earn a profit margin from higher prices to pay for operating costs.

Through this, DeCA is able to lower prices on most items by 3 to 5%, including food staples such as bread, milk and eggs, resulting in immediate savings for shoppers. Families who spend \$200 per week at the commissary can expect to save \$50 on the most commonly purchased groceries.

Customers are expected to see the price changes over the coming weeks if they haven't already.

The savings are available to all eligible commissary patrons by shopping at their local commissary or by using CLICK2GO, the commissary's online ordering platform.

By ensuring DeCA can cut grocery prices at the register, the DOD wishes to achieve an

overall savings of at least 25% on commissary grocery bills compared to the local marketplace.

Because it is mandated by law, commissaires will continue to collect a surcharge, which is currently 5%, to pay for commissary construction, equipment and maintenance. This surcharge is applied to the total value of each commissary purchase and shows up on the sales receipt as "SCG."

For more information, visit the DeCA website at commissaries.com or the Military OneSource webpage on the "Taking Care of Our Service Members and Families" initiative at www.militaryonesource.mil/financial-legal/personal-finance/taking-care-of-people/.



Core Values

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



Vision

"NAS delivers the best aerospace testing capabilities today and in the future."

Values

- Ethics. We are uncompromising in our integrity, honesty, and fairness.
- Safety & Health. We are relentless in keeping people safe from harm, and we provide a safe and healthy work environment.
- Security. We are disciplined and vigilant in protecting sensitive AEDC information and ensuring system integrity to support national security and our customers.
- Excellence. We thrive on challenge, accomplishment, and mission success.
- Quality. We are passionate about doing our work right the first time.
- People. We have a mission-focused, inclusive workforce who have a diverse skill set, are committed to success, demonstrate innovation and have a can-do attitude.
- Culture. Our team is proud of our diversity, inclusiveness, and collaborative work environment. We are proud of what we do and how we do it.
- Relationships. We build positive, long-term business relationships through trust, respect, and collaboration.
- Innovation. We overcome challenges through creativity, perseverance, technology, and flexibility. We actively seek to continually improve.
- Sustainability. We plan and act for the long term benefit of our communities and our environment.

Smoking Policy

- The following revised Arnold AFB smoking policy is effective immediately and applies to all individuals on Arnold AFB.
 - Traditional Tobacco products (e.g. cigars and cigarettes):**
 - Smoking is permitted solely in Designated Tobacco Areas (DTAs) identified by designated signage. If no signage exists, smoking is not permitted in that area. It is the responsibility of all smokers to keep DTAs clean of cigarette butts.
 - Tobacco use on the Arnold AFB Golf Course is permitted, but discouraged based on the health hazards of tobacco use and secondhand smoke. No smoking is permitted within 50 feet of golf course buildings except in the approved DTA.
 - Smoking in government-owned/leased vehicles is strictly prohibited. Personnel are allowed to smoke in their personal vehicles at any time; however, at no time will personnel discard cigarette butts outside their vehicle.
 - For government employees, the fact that a person smokes has no bearing on the number of breaks they may take. Breaks should be taken in accordance with the current supervisory and personnel policies that afford all employees the same break opportunities consistent with good work practices and accomplishment of the mission.
 - Smokeless Tobacco products (e.g. snuff and dip):** Smokeless tobacco products are not to be restricted to DTAs. Smokeless tobacco use will be permitted in all workplace areas (inside and out) subject to reasonable safety and sanitary conditions. Specifically, 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.
 - Electronic Cigarettes (also known as "e-cigs"):** Pursuant to Air Force Instruction (AFI) 40-102, Tobacco Free Living, e-cigs are considered to be equivalent to tobacco products; however, e-cigs are not restricted to DTAs and are allowed to be used outdoors at a minimum distance of 25 feet from building entry/egress points. (This policy is dated July 27, 2016)

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.
The Action Line has been expanded to include an option for your ideas, comments, or suggestions on the AcqDemo personnel system. Simply call the normal x6000 commander's action line. You will then be prompted to select option 1 for the Commander's Action Line or Option 2 for the AcqDemo line. They can access the Action Line via the AEDC intranet home page and by calling 931-454-6000.
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. Randel Gordon
AEDC Commander

Arnold AFB holds Sports Day



Arnold Engineering Development Complex team members compete in volleyball during the Arnold Air Force Base Sports Day at the Arnold Lakeside Complex Oct. 5. (U.S. Air Force photos by Jill Pickett)



A member of the Test Support Division kayak relay team gets a push from his teammates during Arnold Air Force Base Sports Day at the Arnold Lakeside Complex Oct. 5.



Competitors representing the Test Support Division and the 804th Test Group compete in disc golf during Arnold Air Force Base Sports Day at the Arnold Lakeside Complex Oct. 5.



Joseph Bedell, center, representing the 804th Test Group, plays a shot as he and teammate Chris Romanoski battle a team from the Test Support Division in pickleball during Arnold Air Force Base Sports Day at the Arnold Lakeside Complex Oct. 5.



Col. Randel Gordon, commander, Arnold Engineering Development Complex, presents the Arnold Air Force Base Sports Day trophy to 1st Lt. Paul McCormack representing the 804th Test Group at the Arnold Lakeside Complex Oct. 5.



The Wing Staff tug-of-war team digs in during their match against the Test Support Division during Arnold Air Force Base Sports Day at the Arnold Lakeside Complex Oct. 5.

3D PRINTING *from page 1*

gauges and things of that sort.

Spurred by this progress, Tunnel 9 subsequently acquired two additional 3D printers. One, a resin-based printer, is able to print small yet highly-detailed and strong parts. The other, a dual filament-based printer, is capable of consistently printing large and highly-detailed parts.

“There have been a few prototypes applied to the tunnel,” Gigioli said. “In fact, a very critical aero-optic part was prototyped with our resin printer, but most prints are rigs, test fit gauges or other miscellaneous parts.”

It wouldn't be long before Gigioli, now regarded as the Tunnel 9 3D printing “guru,” took on a greater role in the AM efforts and projects themselves took on a greater level of importance.

In February 2020, a research and development project involving the additive manufacture of refractive metal hardware launched at Tunnel 9. Gigioli soon took charge of this effort, one that aimed to reduce lead time and manufacturing costs

for some high-temperature parts used in Tunnel 9.

“These Tunnel 9 parts endure very cyclic, high-pressure and -temperature conditions, so the lifespan on these parts is significantly shorter than other parts in the tunnel,” Gigioli said. “These parts can experience up to 3,000 degrees Fahrenheit. This is why refractive metals are chosen, as they are metals that can withstand extreme heat with relatively little deformation.”

The ongoing AM research and development effort is led by Gigioli, who is responsible for the upkeep of AM materials, devices and printers, and Tunnel 9 Chief Facility Engineer Nicholas Fredrick. They work with a pair of contractor teams, one of which prints the parts and handles the entire manufacturing process from start to finish, and another which supplies the printing powder and analyzes material characteristics.

Perhaps the most significant accomplishment of the research and development program thus far has been the successful manufacture of a component known

as the petal orifice liner. This device, integral to high Mach number tunnel runs, is situated between the two burst diaphragms that Tunnel 9 uses to act as a high-speed valve.

AM typically uses a computer, 3D modeling software, machine equipment and layering material. Once an item is designed using the software, the AM equipment then reads the data to fabricate a three-dimensional version of the object. Materials used in the process can include a variety of filaments, polymers and metals. Through AM, layers of materials are joined or fused together to create the specified object.

In the case of a refractive metal part, AM is completed through a process known as laser-powder bed fusion. With this method, the metal begins as a highly-refined and -controlled metal powder. A high-powered laser is applied to this powder, and it essentially melts the metal particles layer-by-layer until the piece is formed according to specifications.

The AM liner, Gigioli said,

has outperformed its wrought-built counterpart that has been used for decades in the facility.

“The part is cheaper to manufacture, quicker to manufacture and deliver, and is more resilient to the cyclic temperature loading,” Gigioli said. “The AM process creates very unique microstructures within the material and, as a result, the part's structural and thermal properties are different than traditional wrought billets metal.”

Those involved in AM at Tunnel 9 have already begun work on the next 3D-printed part to be applied in high Mach number conditions. This component, a particle separator, would act to weed out any airborne particles in the gas flow without hindering any mass flow in the tunnel.

“We are still awaiting the component to be fully finished, but we hope to implement the component in a test program starting around September,” he said.

The success of the 3D printing program at Tunnel 9 has sparked conversations among team members about potential

future AM projects.

“Myself and the people involved in this R&D project are excited for what the future holds for AM,” Gigioli said.

Their efforts to this point haven't gone unnoticed. Part of the team's research effort involves showcasing the potential of AM for the entire Department of Defense. Gigioli said personnel from various DOD components have already chimed in to compliment the Tunnel 9 team's success and express their astonishment with the AM technology or extol its potential.

With the success of the AM petal orifice liner still on his mind, Gigioli said the possibilities for 3D printing could be boundless.

“Imagine if we scale this process up to multiple tunnel parts or even entire systems,” he said. “Now some DOD components are interested in printing test models or leading edge models.”

“I hope to continue leading Tunnel 9 down this path and increase our success through this technology.”

ANNIVERSARY *from page 1*

til 1995, an estimated 400 tests were run in the facility. The Joint Army-Navy-NASA-Air Force, or JANNAF, plume research in 1995 was the last test in 1T.

Other notable program development entries in 1T include testing for the Atlas program, Mercury capsule testing, NASA Saturn V testing, F-111 flow field studies and B1 engine inlet testing.

The wind tunnel has been out of service since 1995, but over the years there has been a push to restore the 1-foot by 1-foot test section. In 2005 and 2013, studies were conducted to assess the cost and feasibility of reactivating the tunnel.

Though still not operational today, Mills added that it was a valuable asset to AEDC and aerodynamic ground test facilities everywhere.

“1T was an excellent training ground

for young engineers,” he said. “I was fortunate to run two tests in 1T within three years of beginning my AEDC career. I learned how to plan and lead a test team in a low stress environment before leading tests in tunnels 16T and 16S.”

Lt. Col. James Gresham, commander, 716 TS, noted that the aerodynamic capabilities at Arnold today are a direct result of the research conducted in 1T.

“Much like the Air Force builds and tests technology demonstrators and prototypes to reduce programmatic risk for operational combat aircraft, at AEDC we used the same concept when developing our world-class wind tunnels,” he said. “We learned an incredible amount with tunnel 1T which was critical to developing and maturing the amazing data collection capabilities we have today with tunnel 16T. Now, 16T is the busiest, high-fidelity, production

wind tunnel in the nation and supports development and modernization efforts for the highest priority programs in the National Defense Strategy. We continue to stand on the shoulders of the giants who established AEDC as a ground test facility second to none.”

Ed Tucker, AEDC senior technical director, also commented how the tests conducted in 1T helped to first lead the complex in its support of the warfighter.

“Just over a year after President Harry Truman dedicated AEDC, the 1T wind tunnel became operational, launching what would become the

first of many world-class aerospace test capabilities at AEDC,” Tucker said. “Similar to the mandate championed by Gen. Henry ‘Hap’ Arnold after World War II, AEDC is once again leading the charge to answer the urgent call for new advanced test and evaluation capabilities needed to develop game-changing weapon systems. Now, 70 years after technicians and engineers first initiated airflow in 1T, we are still using the methods and lessons learned from that historical event as we develop and operate a new generation of T&E [test and evaluation] capabilities for the nation.”



With the plenum shell retracted, the inside of the test section is visible in the 1-foot transonic wind tunnel, or 1T, at Arnold Air Force Base. The wind tunnel still exists but is no longer operational. From 1952 until its last test in 1995, approximately 400 tests were conducted. (U.S. Air Force photo)



The structure to the left is the main flow exhaust for the 1-foot transonic wind tunnel at Arnold Air Force Base, and at right is the steam ejector exhaust for the tunnel. 1T was operational beginning in October 1952. Its last test was conducted in 1995. (U.S. Air Force photo)

Around Arnold

Protect your hearing

By Rick Fleming

AEDC Safety

Well, I went to the audiologist this past month for a hearing test and was not happy at all with the results. I expected him to suggest for my wife to quit whispering and instead he said I was a “great candidate for hearing aids.”

Testing revealed that in the upper frequencies I have “profound” hearing loss. WHAT!?!?!?

Sure, I have worked around noisy machines since I was 20 years old, but we did not realize the importance of hearing protection back then, and now, apparently, the damage is done and cannot be reversed. But I am not alone, one in eight people in the United States have hearing loss.

According to the Centers for Disease Control occupational hearing loss is one of the most common work-related illnesses in the United States. Hearing loss is the third most common chronic physical condition after high blood pressure and arthritis.

Aging and chronic exposure to loud noises both contribute to hearing loss. Other factors, such as excessive earwax or some medications can temporarily reduce how well your ears conduct sounds.

You can’t reverse most types of hearing loss. However, you and your doctor or a hearing specialist can take steps to improve what you hear.

To understand how hearing loss occurs, it can be helpful to first understand how you hear. The information in the subsections below is from the Mayo Clinic web page.

How you hear

The ear is made up of three primary parts: the outer, middle and inner ear. Each is composed of structures that play distinct roles in the process of converting sound waves into signals that go to the brain. Sound waves pass through the outer ear and cause vibrations at the eardrum. The eardrum and three small bones of the middle ear amplify the vi-

brations as they travel to the inner ear. There, the vibrations pass through fluid in a snail-shaped structure in the inner ear (cochlea).

Attached to nerve cells in the cochlea are thousands of tiny hairs that help translate sound vibrations into electrical signals that are transmitted to your brain. Your brain turns these signals into sound.

How hearing loss can occur

Factors that may damage or lead to loss of the hairs and nerve cells in your inner ear include:

- **Aging.** Degeneration of inner ear structures occurs over time. Simple wear and tear damages the hairs or nerve cells and electrical signals aren’t transmitted as efficiently.
- **Loud noise.** Exposure to loud sounds can damage the cells of your inner ear. Damage can occur with long-term exposure or from a short blast of noise.
- **Heredity.** Your genetic makeup may make you more susceptible to ear damage from sound or deterioration from aging.
- **Occupational noises.** Jobs where loud noise is a regular part of the working environment, such as farming, construction or factory work.
- **Recreational noises.** Exposure to explosive noises, such as from firearms and jet engines, can cause immediate, permanent hearing loss.
- **Gradual buildup of earwax.** Earwax can block the ear canal and prevent conduction of sound waves. Earwax removal can help restore your hearing.
- **Ear infection and abnormal bone growths or tumors.** In the outer or middle ear, any of these can cause hearing loss.
- **Ruptured eardrum (Tympanic membrane perforation).** Loud blasts of noise, sudden changes in pressure, poking with an object and infection can cause your eardrum to

rupture and affect your hearing.

- **Some medications.** Drugs can damage the inner ear. Temporary effects on your hearing – ringing in the ear (tinnitus) or hearing loss can occur.
- **Some illnesses.** Diseases or illnesses that result in high fever, such as meningitis, may damage the cochlea.

Complications

Hearing loss can have a significant effect on your quality of life. Older adults with hearing loss may report feelings of depression. Because hearing loss can make conversation difficult, some people experience feelings of isolation. Hearing loss is also associated with cognitive impairment and decline. Research suggests that treating hearing loss can have a positive effect on cognitive performance, especially memory.

A safe level is at or below 70 decibels (dBA). When all other options for eliminating or reducing the noise at the source are exhausted, hearing protection like earplugs or earmuffs should be used. For Example;

- 60 – 70 dBA Normal conversation – dishwashers
- 80 – 90 dBA Alarm clocks – lawnmowers – power tools – hair Dryers
- 110 - 120 dBA Concerts – car horns – sporting events – chain saws
- 120 – 140 DBA Ambulances – fireworks – gun shots

Prevention

The following steps can help you prevent noise-induced hearing loss and avoid worsening of age-related hearing loss:

- **Protect your ears.** Limiting the duration and intensity of your exposure to noise is the best protection. In the workplace, at home or at play, protect your ears from damaging noise.
- **Have your hearing tested.** Consider regular hearing tests if you think you have a problem.

- **Avoid recreational risks.** Activities like riding a snowmobile, hunting, power tools or listening to rock concerts can damage your hearing over time. Wearing hearing protectors or taking breaks from the noise can protect your ears. Turning down the music is helpful too.

Signs and symptoms

- Muffling of speech and other sounds.
- Difficulty understanding words, especially against background noise or in a crowd.
- Trouble hearing consonants.
- Frequently asking others to speak more slowly, clearly, and loudly.
- Needing to turn up the volume of the television or radio.
- Withdrawal from conversations.
- Avoidance of some social settings.

When to see a doctor

If you have a sudden loss of hearing, particularly in one ear, seek immediate medical attention.

Talk to your doctor if difficulty hearing is interfering with your daily life. Age-related hearing loss occurs gradually, so you may not notice it at first.

Every day we make choices about our personal safety. We get in our vehicle and buckle the seatbelt. At work we know to wear proper PPE: safety glasses, hearing and foot protection, hard hat and other things depending on your job. But at home do you grab your safety glasses and ear protection when you are at risk? PPE is just as important at home and using it will help teach the next generation to protect themselves before damage is done. Even the partial loss of hearing or vision will certainly affect your quality of life so do not put yourself in a position where that could happen.

Take care of each other.

Know your Survivor Benefit Plan options before you retire

By Derrick Harris

Arnold AFB Survivor Benefit Plan Counselor

Survivor Benefit Plan is a voluntary program that provides the survivors of participating military retirees a monthly income that starts when the member dies and retired pay stops.

Although you may not be aware of it, automatic SBP spouse coverage became effective Sept. 10, 2001, under the National Defense Authorization Act of 2002. While on active duty, the government provides this protection at no cost to your spouse. Before retiring from the Air Force, however, you must decide whether or not to continue the SBP.

By law, spouses and eligible dependents are protected by maximum SBP coverage after retirement unless

you, with your spouse’s concurrence, decline SBP coverage, elect “Child Only” SBP coverage or elect coverage at a reduced level. However, once you retire SBP financial protection is no longer free. If you choose to enroll in the SBP, a monthly premium will be deducted from your Air Force retired pay.

The premium cost is 6.5% of covered retired pay, or less for some lower levels of coverage. The monthly cost is subject to cost-of-living adjustments, or COLAs, but the percentage does not increase. The cost for the coverage is deducted from retired pay until the retiree’s death.

The SBP annuity amount a spouse receives at the time of the retiree’s death depends on the level of coverage elected prior to retirement. The level of coverage or base amount may

be as low as \$300, but cannot exceed full retired pay. The surviving spouse receives 55% of the base amount. The value of the annuity increases by COLAs before and after the retiree’s death, keeping up with the effects of inflation.

SBP allows the member to exclude the spouse and elect child-only coverage. Although child-only coverage costs less than SBP coverage for the spouse, a child’s eligibility is limited to age 22, unless incapable of self-support. If the retiree dies after the children are age 22, the spouse will not be entitled to receive any payments. The only way to ensure spouse coverage is to elect spouse coverage.

Because your family’s finances could be significantly affected by your SBP decision, it is important that you understand the program. The Air Force

strongly encourages you to attend the SBP briefing with your spouse.

The SBP briefing is mandatory for the member, and completing the DD 2656 form is a mandatory checklist item for final out-processing. Call to schedule your SBP appointment in building 100, room B111A.

You will not have an opportunity to enroll in the SBP after retiring; your decision before retirement will be final.

Once again, retired pay stops when the retiree dies. The only way the survivor can receive a monthly check from the Air Force is through the SBP. The Air Force urges you and your spouse to carefully weigh the many advantages of the SBP before making a decision. Contact the Casualty Assistance Office at 931-454-4574 for further information.

AFMC Connect October Focus: Endurance

By Air Force Materiel Command

WRIGHT-PATTERSON AIR FORCE BASE, Ohio – The late professional football player, wrestler, sportscaster and actor Alexander George Karras summarizes this month’s AFMC Connect focus on endurance in one simple phrase, “Toughness is in the soul and the spirit, not the muscles.”

The AFMC Connect focus for October is Endurance.

While physical endurance is often easy to see through muscle and stamina at the gym or on the field, mental endurance is more elusive.

Endurance in the latter pertains to the ability of a person to maintain resilience and mental strength when faced with unexpected challenges. This endurance is the ability to persevere and “bounce back” when things are tough. It requires building mental resiliency before situations occur so that an individual can learn and grow as they move forward.

To encourage the growth of mental endurance among teams, leaders can help individuals to:

- Trust their strengths and abilities
- Tackle new and unknown

challenges

- Eliminate negative self-talk
- Ask for help
- Identify healthy boundaries

To learn more about endurance and ways to build this skill, visit <https://www.afmc.af.mil/Portals/13/AFMC%20Connect%20-%20ENDURANCE%20%28Oct%202022%29.pdf>.

Information on the AFMC Connect program and resiliency resources are available on the Air Force Materiel Command website at www.afmc.af.mil/connect.



The AFMC Connect focus for October is Endurance. (U.S. Air Force graphic)

2023 AFMC Spark Tank finalists announced

By Kayla Prather

Air Force Materiel Command

WRIGHT-PATTERSON AIR FORCE BASE, Ohio – With strong competition from over 20 innovative Airmen submissions turned to five semi-finalists, the Air Force Materiel Command named its 2023 Spark Tank finalists, Oct. 6.

The Test Aircraft Virtual Reality “Just in Time” Solution, submitted by Master Sgt. Jeremy Neilson, Air Force Test Center, and an idea for the Robotics Universal Remote, presented by the team of Brian Warren and Tech Sgt. Geoffrey Gilmer, also from the Air Force Test Center, were selected to represent the command at the next level of competition.

“We are here today because we want to make the Air Force better,” said Lt. Gen. Carl Schaefer, AFMC Deputy Commander, who headed the judging panel at the live event. “For us, it is about creating a culture of innovation in the Air Force, but especially in AFMC. Nothing happens in the rest of the Air Force without what we do.”

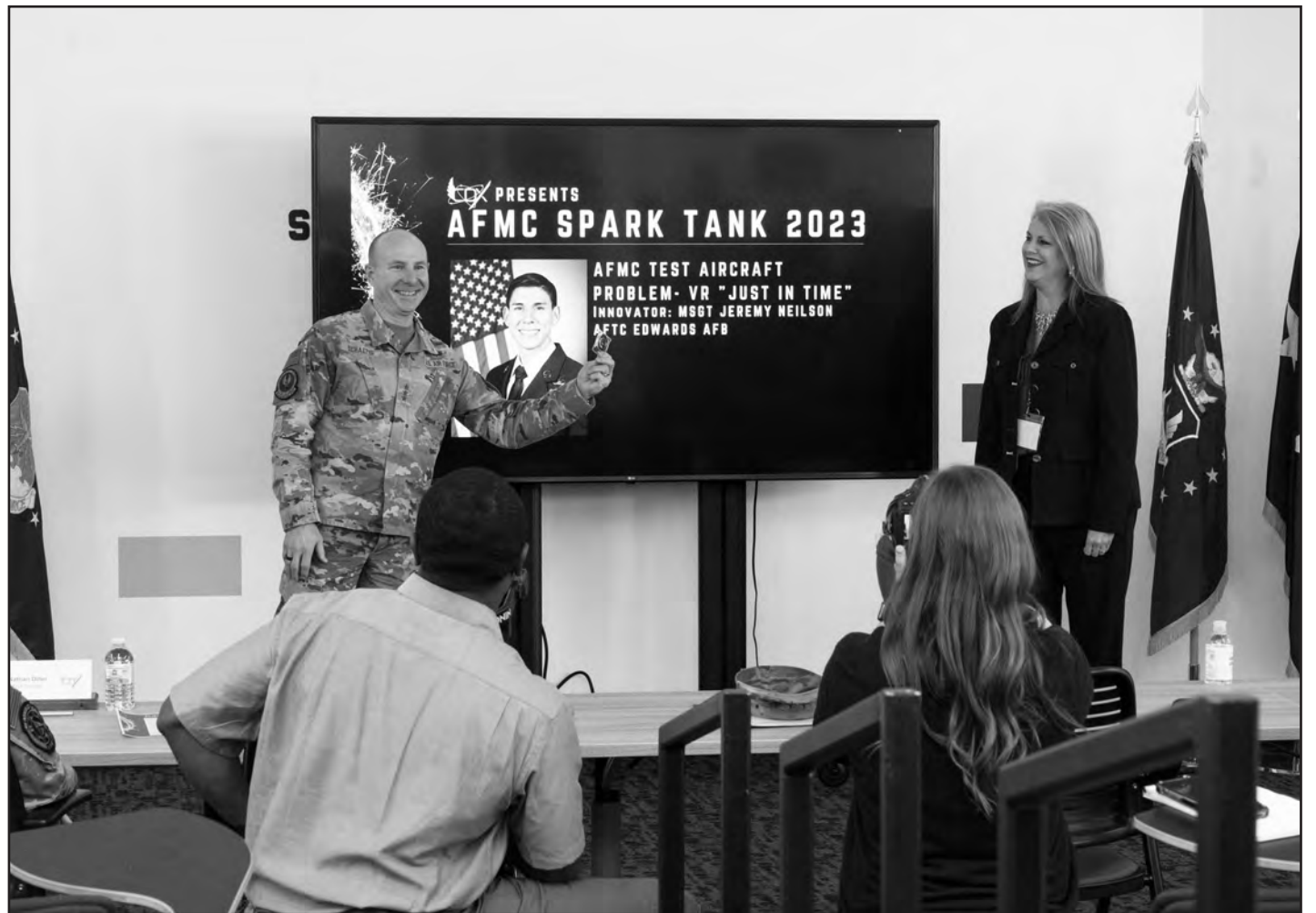
Five semi-finalists had the opportunity to present their creative ideas to a senior leader panel that included Schaefer and AFMC Executive Director, Lorna Estep, hoping to turn their ground-breaking ideas into a reality. The winners of this competition progress to the Air Force-level Spark Tank competition.

Neilson’s AFMC Test Aircraft Problem – Virtual Reality “Just in Time” Solution incorporates virtual reality programs into instructional plans to enable units to reach mandated “Just in Time” training baselines in a measurable and scalable way.

Warren and Gilmer’s Robotics Universal Remote aims to create a universal remote for robotic operations in austere environments to enable faster response times and easier use across platforms.

“The end goal is to save lives down range and at home stations,” said Gilmer. “I’m hoping that this will have the capability that they need to get the job done safely.”

When reflecting on their win, the team shared how grateful they are to be



U.S. Air Force Lt. Gen. Carl E. Schaefer, Air Force Materiel Command deputy commander, recognizes winning innovator, Master Sgt. Jeremy Neilson, from the Air Force Test Center during the 2023 AFMC Spark Tank competition Oct. 6 at the Rapid Sustainment Office in Dayton, Ohio. Spark Tank is a Department of the Air Force annual competition where Airmen and Guardians pitch innovative solutions to operational problems, with the opportunity to receive project funding. (U.S. Air Force photo by Zion Dillahunt)

moving onto the next phase of the competition.

“We are very excited to be moving on the Air Force-level Spark Tank competition,” said Warren. “It means a great deal to us and all the explosive ordnance disposal warfighters out there that the panel here decided that our idea was worthy of consideration at that level.”

Spark Tank brings forth the advanced knowledge of Airmen and Guardians in the form of a grass-roots campaign. It reflects leadership’s continued efforts to empower and provide them with a platform to pitch innovative solutions to operational problems.

The AFMC Commanders Accelerated Initiatives Team (CDX), which manages the AFMC portion of the competition, is the key support for these innovative Airmen who are revolutionizing

processes, strengthening AFMC teams, delivering integrated capabilities and amplifying warfighting culture.

“I want to thank all of the amazing, innovative Airmen across the command who took the time to submit ideas,” said AFMC CDX Chief, Kimberly Norman. “Please continue to send us those ideas, we love to hear about your innovative solutions.”

The five AFMC semi-finalists who presented during the event were:

- Master Sgt. Jeremy Neilson, Air Force Test Center: AFMC Test Aircraft Problem Virtual Reality “Just in Time” Solution
- Russell Roberds, Air Force Lifecycle Management Center: Federal Acquisition Regulation Index Tool


- Brian Warren and Tech Sgt. Geoffrey Gilmer, Air Force Test Center: Robotics Universal Remote

- Dan Sandrowicz, 88th Air Base Wing: GeoBase Mobile Editing

- 96th Logistics Readiness Squadron, Air Force Test Center: Warehouse of the Future

Schaefer highlighted that all five semi-finalists are winners and that some of these great ideas are “Just Do Its” that AFMC can support without elevating them to the Air Force-level.

“We are the foundation of deterrence for our country, both on the nuclear side and the conventional side. We take care of all Airmen,” said Schaefer. “So that is why what we are doing today is so important.”



ARNOLD SERVICES PRESENTS

FAMILY HOLIDAY BAZAAR

family - friendly outdoor event

December 10

11 A.M. - 2 P.M.

ARNOLD LAKESIDE COMPLEX

VENDORS, FOOD TRUCKS, SANTA & MRS. CLAUS, SANTA’S WORKSHOP, TOYS FOR TOTS, PETTING ZOO, CARNIVAL GAMES, MULLED WINE & APPLY CIDER, KIDS PRESENTS, & MORE

PARKING & BUS SHUTTLE AT UTSI CAMPUS
PARKING NOT AUTHORIZED AT EVENT LOCATION

Call 454-7530 for more information

GOAT

YOGA

December 3

2 P.M.

Fitness Center

For more information & to sign up
Call **454-6084**

\$10 per person

Active Duty & Family Members
Sign up Now - November 12

DoD Civilians & Retirees
Sign up October 31 - November 12




Freeze the Gain wellness challenge

By Air Force Materiel Command Health & Wellness Team

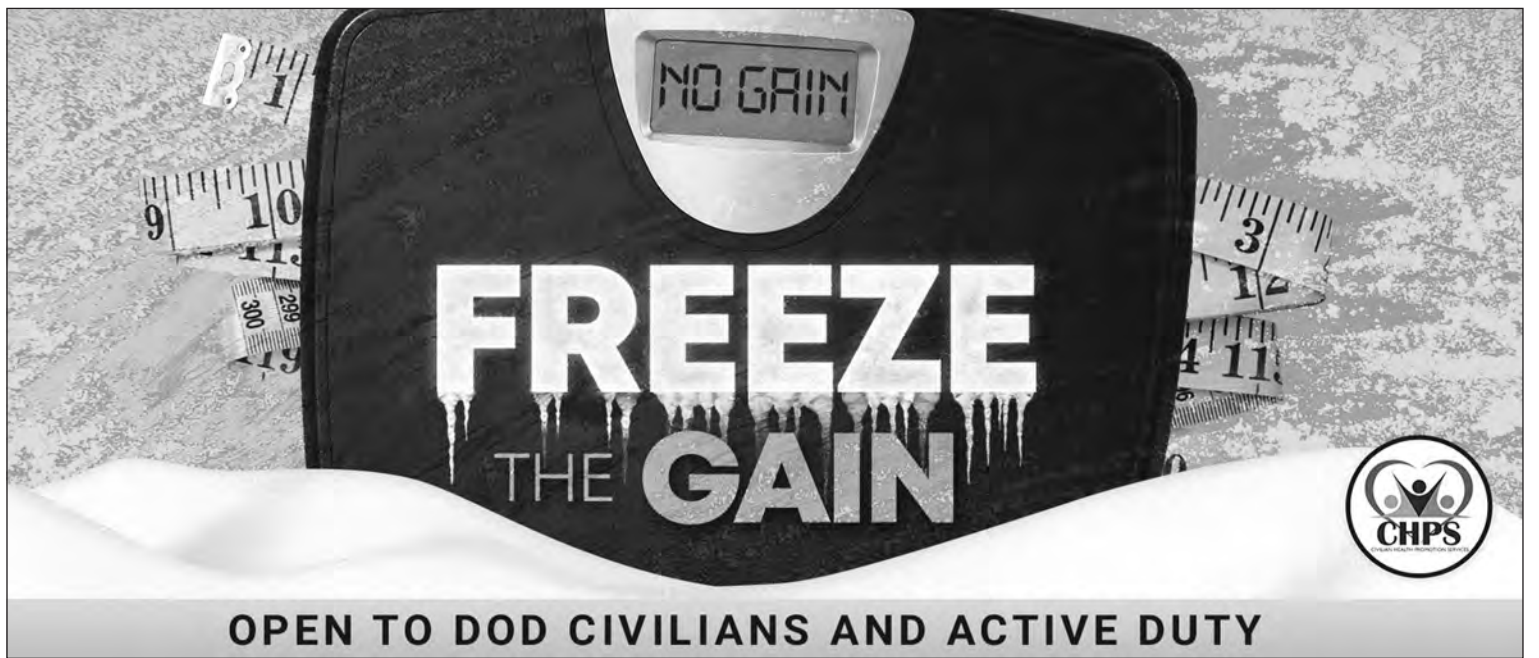
WRIGHT-PATTERSON AIR FORCE BASE, Ohio – During the holiday season, Air Force Civilian Health Promotion Services will promote the Freeze the Gain wellness challenge.

Freeze the Gain is a weight maintenance program that encourages participants to maintain – not gain weight during the six-week challenge period, which runs from Nov. 1 through Dec. 12. Reaching and maintaining a healthy weight is important for overall health and can help you prevent and control many diseases and conditions.

Freeze the Gain is open to the DoD civilian and active duty workforce.

To participate in the Freeze the Gain wellness challenge:

1. Visit USAFwellness.com to enroll from Oct. 1-31, 2022.
2. Print your Freeze the Gain confirmation email and complete an in-person weigh-in event with CHPS between Oct. 24-31, to



During the holiday season, Air Force Civilian Health Promotion Services will promote the Freeze the Gain wellness challenge. Freeze the Gain is a weight maintenance program that encourages participants to maintain – not gain weight during the six-week challenge period, which runs from Nov. 1 through Dec. 12. (Courtesy graphic)

finalize enrollment. You can complete a wellness screening (CRP, Blood Pressure, Body Composition) as well as receive your free Digital Food Scale enrollment award at this visit. If participating virtually, call or email your local CHPS office with your self-reported weigh-in weight.

3. Stay within two pounds of initial weight from Nov. 1 – Dec. 12 by incorporating health lifestyle habits throughout the holiday season.
4. Attend one Freeze the Gain class with CHPS titled “Healthy Habits for a Healthy Life” between Nov.

1 – Dec. 12. In person and virtual sessions available.

5. Attend an in-person weigh-out event with CHPS Dec. 13-22 to receive your free completion award. If participating virtually, email or call CHPS with your self-reported weigh-out weight.

If completing the FTG Challenge virtually, you may schedule a time with your local CHPS staff to come on base and collect your incentive awards.

For more information on weight management, healthy lifestyles, and physical activity programs, visit USAFwellness.com or visit your local CHPS office.

AFMC Spouse and Family Forum set for Nov. 16

By Marisa Alia-Novobilski
Air Force Materiel Command

WRIGHT-PATTERSON AIR FORCE BASE, Ohio – The Air Force Materiel Command will host a virtual Spouse and Family Forum, Nov. 16, at 1 p.m. ET, open to military and civilian family members across the enterprise.

The event, hosted by Dede Richardson, spouse of AFMC Commander, Gen. Duke Z. Richardson, is part of a new AFMC Family Connection initiative, which is designed to connect family members across the command with support and resources in all aspects of life.

“We are building on the ‘Five and Thrive’ program, which was developed by Sharene Brown, the spouse of Air Force Chief of Staff, Gen. Charles Q. Brown, in an effort to link military families with the resources and support in key areas of service

life,” said Lesley Darley, AFMC Community Support Program Manager. “The AFMC Family Connection efforts build on the Thrive Initiative with the added goal of reaching the family members of our civilians to better connect them to the Air Force, AFMC and installation resources in areas such as childcare, employment, education, medical, housing and more.”

The AFMC Spouse and Family forum will feature Department of the Air Force representatives from the Five and Thrive focus areas who will provide information on services and resources available to the military and civilian community. Attendees will have the opportunity to ask questions of the subject matter experts during the live event.

The virtual forum will be hosted on ZoomGov, with the invitation and event link sent to employees via internal channels



The Air Force Materiel Command will host a virtual Spouse and Family Forum, Nov. 16, at 1 p.m. ET, open to military and civilian family members across the enterprise. (U.S. Air Force graphic)

The Green Scene

brought to you by Services Recycling Program



STOP

Before you toss that in the trash...



THINK

Is it something that can be recycled?



RECYCLE

If YES, please toss in a recycling bin instead of trash can.



Thank You from **THE GREEN TEAM**

931-454-6068

Please Recycle

AEDC quarterly award winners announced



1st Lt. Chase Bilyou
586th Flight Test Squadron, Det. 1, White Sands Missile Range
Company Grade Officer of the Quarter



Master Sgt. Christopher Johns
846th Test Squadron, Holloman AFB
Senior Non-Commissioned Officer of the Quarter



Michelle Frame
718th Test Squadron, Arnold AFB
Civilian of the Quarter Category I



Ryan Mueller
Staff Judge Advocate Office, Arnold AFB
Civilian of the Quarter Category III



Nicholas Yoon
Services, Arnold AFB Non-appropriated Fund
Civilian of the Quarter Category I



Brett Moore
AFTC/PZI Arnold at 704th Test Group, AEDC
AFTC/Command and Staff, Civilian of the Quarter Category III

Team winners:

Exceptional Innovator Award: Project Camaro Test Team, 718th Test Squadron, Arnold AFB

Technical Achievement Award: APTU Project Team, 804th Test Group, Arnold AFB
Semiannual Gen. Lee Gossick Team Excellence Award: TSDI and IP Comm Team, Arnold AFB

Photos unavailable for the following individual winners:

Tech. Sgt. Allison Ward
704th Test Support Squadron, Holloman AFB
Non-Commissioned Officer of the Quarter

Sr. Airman Joseph Shelton
704th Test Support Squadron, Holloman AFB
Airman of the Quarter

Brady Wattenbarger
718th Test Squadron, Arnold AFB
Civilian of the Quarter Category II

Semiannual Safety Award: Steven Carman, 804th Test Group, Arnold AFB



Arnold AFB Services provides skydiving opportunity

Participants in an Arnold Air Force Base Services skydiving trip pose for a photo before jumping Sept. 24 at the airport in Tullahoma. (U.S. Air Force photo by Matthew Clear)

COMMISSARY COSTUME CONTEST

Sponsored By:

- 100 GRAND
- ACT II
- Baby Ruth
- Butterfinger
- BOYARDEE
- CRUNCH
- Kinder
- NIVEA
- Orville Redenbacher's
- PIRATES BOOTY
- Snack Pack
- SKINNY POP

ENTER TO WIN A \$25 COMMISSARY GIFT CARD!
9/26/2022 THROUGH 11/1/2022
SHOP.COMMISSARIES.COM/HALLOWEEN-COSTUME-CONTEST

OPEN MIC NIGHT
WITH AMERICAN PIE
NOVEMBER 4
6 - 9:30 P.M.
ALC

Hang Gliding
LOOKOUT MOUNTAIN FLIGHT PARK
WITH OUTDOOR RECREATION
November 5
9 A.M. EST
\$30 per Person
Minimum Age 10 | Maximum weight 200lbs
Active Duty Sign up now until October 28
DoD Civilians & Retirees Sign up from October 31 - October 28
Call 454-6084

KIDS CRAFT & MOVIE NIGHT
Disney • PIXAR
LIGHTYEAR
RATED PG
1HR 45 MIN
NOVEMBER 18
5:30 P.M. SHOWTIME
ALC

General Jackson Midday Holiday Cruise
Celebrate the season with songs from some of Tennessee's great musical stars featuring Bluegrass, Blues & Christmas genres.
\$15 per person
November 19
11 A.M.
Active Duty & Family Members Sign up now until November 12
DoD Civilians & Retirees Sign up October 13 - November 12
Price per person includes meal
For more information & to sign up call 454-6084

ICE Tell us what you think at ice.disa.mil
INTERACTIVE CUSTOMER EVALUATION

NOVEMBER 2022

Arnold AFB Services | [arnold_services](https://www.instagram.com/arnold_services) | [AAFBServices](https://twitter.com/AAFBServices)

SCAN ME

Arnold Services Directory

Thank You to Our Sponsors
No Federal Endorsement of Sponsors Intended

- Lawson Electric Co. (Established 1925)
- BECHTEL
- TULLAHOMA economic development
- Pack2Normal (the packout contents pros)
- AirMedCare NETWORK (A Global Medical Response Solution)
- NAS (NATIONAL AEROSPACE SOLUTIONS)
- SIERRA LOBO
- CITIZENS TRI-COUNTY BANK
- Life Care Center of Tullahoma
- APEX RESTORATION
- DKI
- ROSCOE BROWN (HEATING • COOLING • INSULATION PLUMBING • DRAINS • GEOTHERMAL Since 1940)
- AIR FORCE SERVICES ARNOLD AFB

CAFE 100 PEANUT BUTTER CUP FRAPPUCCINO
\$7.25
Only in November
TREAT YOURSELF

November Holiday Hours

ALC Nov 10 - Closed Nov 11 - Closed Nov 23 - Closed Nov 24 - Closed Nov 25 - Closed	FITNESS CENTER Nov 11 - Closed Nov 23 - 8am-1pm Nov 24 - Closed Nov 25 - Closed	ODR Nov 11 - Closed Nov 23 - 10am - 2pm Nov 24 - Closed Nov 25 - Closed
CAFE 100 Nov 10 - Closed Nov 11 - Closed Nov 24 - Closed Nov 25 - Closed	GOLF COURSE Nov 24 - Closed AIR FORCE SERVICES ARNOLD AFB	WINGO INN Nov 11 - Closed Nov 24 - Closed Nov 25 - Closed On-Call Phone Available 24/7

Department of the Air Force recognizes Energy Action Month

By Secretary of the Air Force
Energy, Installations,
and Environment

ARLINGTON, Va. (AFNS) – In recognition of Energy Action Month, the Department of the Air Force is showcasing energy's essential role in assuring combat capability and readiness and the importance of developing energy solutions that bolster resilience in the face of climate change.

This year, the DAF launched a new three-year theme, "Powering Possibility," which highlights the Department's forward-looking approach to energy innovation and powering the future force. Complex challenges including a competitive operating environment, accelerating climate change, adversarial cyber threats, and a changing geopolitical landscape all threaten critical DAF infrastructure, energy, and power supplies. As such, the DAF must be proactive in exploring the possibility to find safe, reliable, and efficient energy solutions that bolster our ability to fight and win in a changing world.

"The crucial role energy plays in Air Force and Space Force global operations cannot be overstated. Our weapon systems and installations depend on secure and reliable power to complete the mission, and without it we simply cannot fight effectively," explained Edwin Oshiba, Air Force for Energy, Installations, and Environment acting assistant secretary. "We're working across the Department to safeguard our



In recognition of Energy Action Month, the Department of the Air Force is showcasing energy's essential role in assuring combat capability and readiness and the importance of developing energy solutions that bolster resilience in the face of climate change. (U.S. Air Force graphic)

energy supply chains, incorporate energy-efficient technologies, and bolster installation resilience to increase our combat effectiveness in the face of climate impacts."

Operational energy, or aviation fuel, comprises the majority of DAF energy usage, providing a tremendous opportunity to optimize energy consumption and model how the military can improve its warfighting capabilities, while meeting aggressive climate goals. The DAF is enhancing aviation fuel efficiency through improved air-

craft drag reduction and engine sustainment technologies, agile software, process improvements, and advanced propulsion. Through joint wargaming efforts, the DAF is identifying and mitigating operational risk to logistics and energy supply chains to ensure a ready and lethal force.

Installations across the country are exploring innovative energy initiatives including microgrids, electric vehicle infrastructure, solar arrays, and a micro-reactor pilot to enhance installation resilience and re-

duce greenhouse gas emissions. Additionally, the DAF is undergoing extensive planning efforts like Installation Energy and Climate Resilience Plans to advance mission critical energy and water systems and is conducting Energy Resilience Readiness Exercises to help installations assess mission readiness during a controlled loss of power.

The DAF is developing a comprehensive Climate Action Plan aligned with national security imperatives that lays out climate priorities and actionable

goals to address the complex threat of climate change, including objectives related to energy efficiency, which should be released soon.

Energy is critical to the DAF's ability to achieve the mission to fly, fight, and win in air, space, and cyberspace. To help spread awareness of energy initiatives, visit the Energy Action Month website, <https://www.energy.gov/eere/femp/energy-awareness-month>, and follow the hashtag #PowerDAFPossibility on Facebook and Twitter.

DAF develops dual-track 'Civilians We Need' career model, roadmaps to enhance civilian career progression

By Secretary of the Air Force
Public Affairs

ARLINGTON, Va. (AFNS) – The Department of the Air Force is unveiling a new civilian career talent management process designed to be more nimble in developing both civilian leaders as well as growing technical expertise/competence.

The new "Civilians We Need" career model and accompanying career roadmaps will help DAF civilians plan their job experiences, education, training, and leadership opportunities to meet their professional goals.

The dual-track civilian career model, which distinguishes paths for both enterprise leaders and functional experts, was created to enhance retention as well as to promote greater diversity.

"DAF civilians join the workforce from a variety of different sources, and it's imperative that we have a flexible framework to develop their careers," said Alex Wagner, assistant secretary of the Air Force for Manpower and Reserve Affairs. "Some desire to become functional experts or leaders, and others desire to become enterprise leaders. The DAF needs and values both."

The 2020 Racial Disparity Review and recent RAND study indicated that the DAF has disparities in senior civilian positions starting at the GS-13 level through the Senior Executive Service level. Factors such as expectations for geographic mobility and professional military education involving mobility were seen as barriers to advancement for certain races/ethnicities and women.

The traditional enterprise leader track provides a broad base of development for those who aspire to enterprise leadership positions such as SES. This track emphasizes depth and breadth of experience both within and beyond one's primary functional area, geographic mobility, and professional military education.

The new functional expert/leader track is for developing functional experts and leaders with substantive technical

expertise and institutional memory. This track encourages formal education at the master's or doctoral degree level to prioritize depth of technical knowledge.

A DAF-level roadmap representing desired attributes has been developed for each career track. These roadmaps serve as guides for career decision making based on whether the employee seeks development designed to prepare for DAF enterprise leadership roles or roles which provide deep functional expertise and senior leadership within a given functional area.

Leaders understand that career aspirations and personal circumstances may change, so these roadmaps were developed to also allow an individual to switch between the two career tracks at any given point in time.

"The career roadmaps have been defined and establish expectations for civilian career development," said Gwendolyn DeFilippi, assistant deputy chief of staff for Manpower, Personnel and Services. "Whether they are mobile and aspire to enterprise leader positions or whether they want to be the best functional expert that they can be, all civilians are valued – their contributions are valued – and we have laid out a development track for them."

In addition to the DAF-level career roadmaps, career field managers will build career-field specific versions of both roadmaps that will be available on MyVector.

The roadmaps are another part of the DAF's "Growing Airmen of the Future" initiative that will shape the force we need, both military and civilian, to face future challenges.

The "Civilians We Need" Model and career roadmaps have been codified in the DAF Manual 36-142, Civilian Career Field Management and Force Development, which now includes references to the Space Force and supersedes AF Manual 36-606.

If you are interested in learning more, please watch the Civilians We Need Career Model & Roadmaps video at <https://www.dvidshub.net/video/859937/civilians-we-need-career-model-roadmaps>.

HH-60W reaches initial operational capability



Airmen assigned to the 38th Rescue Squadron perform a combat search and rescue demonstration at Moody Air Force Base, Georgia, Sept. 9. The 23rd Maintenance Group and 347th Rescue Group have successfully postured the HH-60W Jolly Green II capabilities for maximum combat readiness and full integration in rescue operations alongside the HC-130J Combat King II aircraft. (U.S. Air Force photo by Senior Airman Jasmine M. Barnes)

By Capt. Lauren Gao

Air Combat Command Public Affairs

JOINT BASE LANGLEY-EUSTIS, Va. (AFNS) – Gen. Mark Kelly, commander of Air Combat Command, declared the HH-60W Jolly Green II has reached initial operational capability on Oct. 4.

The declaration means that the U.S. Air Force now possesses sufficient HH-60Ws, logistics requirements and trained Airmen to support a 30-day deployment to any independent location with a package of four aircraft.

“It’s an exciting day for Combat Rescue as we bring a new platform and its upgraded capabilities into operation,” said Maj. Gen. David Lyons, ACC director of operations. “This declaration is the culmination of years of hard work and vision. Current and future combat environments require us to maneuver further and faster than ever before, and the capabilities provided by the Jolly Green II supports the platform’s viability for our Air Force Personnel Recovery core function for as long as possible.”

The 23rd Wing at Moody Air Force Base, Georgia, one of the first locations to receive the HH-60W, held a ceremony to mark the declaration Sept. 9.

“The Airmen of the 23rd Wing have done a tremendous job working with partners to get this aircraft combat-ready on time,” said Col. Russ Cook, 23rd Wing commander. “Bottom line, the future of Air Force Rescue is secure, and our team is ready to recover anybody, anytime, anywhere, against any adversary.”

The HH-60W offers a range of improved capabilities over its predecessor, the HH-60G Pave Hawk, to include improved range and survivability, a new fuel system, advanced avionics and more. As a digitally focused platform, it also allows faster movement of data and better integration with other platforms and combatant command capabilities.

These upgrades will continue to enable safer search and rescue operations and provide the joint force with the capabilities needed to accomplish the complex and critical mission of personnel recovery.



An HH-60W Jolly Green II helicopter is parked on the flightline during the HH-60W Initial Operational Capability ceremony at Moody Air Force Base, Georgia, Sept. 9. The ceremony displayed the platform’s operational capabilities and signifies the HH-60W has met the criteria for IOC and awaits declaration. (U.S. Air Force photo by Senior Airman Rebeckah Medeiros)

Social media cybersecurity: it takes all of us

By 75th Air Base Wing Public Affairs

HILL AIR FORCE BASE, Utah – October is Cybersecurity Awareness Month, highlighting the importance of cybersecurity and good cyber hygiene.

The Department of Air Force overall theme for this year is: Cybersecurity starts with all of us.

The following is cybersecurity information concerning social media, presented by the National Cybersecurity Alliance.

Social media platforms have become an integral part of our online lives. Social networks are a great way to stay connected with others, but you should be wary about how much personal information you post.

Have your family, friends, and community follow these tips to safely enjoy social media.

Check your settings

Every time you sign up for a new social media account or download a new app, immediately configure the privacy and security settings to your comfort level for information sharing. Regularly check these settings to make sure they are still configured to your comfort. Get started with our direct links to settings of popular websites at <https://staysafeonline.org/resources/manage-your-privacy-settings/>.

Share with care

Be cautious about how much personal information you provide on social networking sites. The more information you post, the easier it may be for a hacker or someone else to use that information to steal your identity, access your data or commit other crimes such as stalking.

Once posted, always posted

Protect your reputation on social networks. What you post online stays online. Think twice before posting pictures you wouldn’t want your parents or future employers to see. Recent research found that 70 percent of job recruiters rejected candidates based on

information they found online.

Know and manage your friends

Social networks can be used for a variety of purposes. Some of the fun is creating a large pool of friends from many aspects of your life. That doesn’t mean all friends are created equal. Use tools to manage the information you share with friends in different groups or even have multiple online pages. If you’re trying to create a public persona as a blogger or expert, create an open profile or a “fan” page that encourages broad participation and limits personal information. Use your personal profile to keep your real friends (the ones you know and trust) up to date with your daily life.

Know what action to take

If someone is bullying, harassing or threatening you, remove them from your friends list, block them and report them to the site administrator. Learn more at <https://staysafeonline.org/online-safety-privacy-basics/cyberbullying/>.

Enable multi-factor authentication

Use 2-factor authentication or multi-factor authentication (like biometrics, security keys or a unique, one-time code through an app on your mobile device) whenever offered. Learn more at <https://staysafeonline.org/online-safety-privacy-basics/multi-factor-authentication/>.

Use long, unique passwords

Length trumps complexity. A strong password is a sentence that is at least 12 characters long. Focus on positive sentences or phrases that you like to think about and are easy to remember. Learn more at <https://staysafeonline.org/online-safety-privacy-basics/passwords-securing-accounts/>.

Think before you click

Links in tweets, texts, posts, and social media messages are the easiest way for cyber criminals to get your sensitive information. Be wary of clicking on links or downloading anything that



National Cybersecurity Alliance presents important cybersecurity tips concerning social media during October’s Cybersecurity Awareness Month, highlighting the importance of cybersecurity and good cyber hygiene. (U.S. Air Force graphic by Kent Bingham)

comes from a stranger or that you were not expecting. Learn more at <https://staysafeonline.org/theft-fraud-cyber-crime/phishing/>.

