

## Tunnel 9 receives a much needed refresh

By Deidre Ortiz  
ATA Public Affairs

After three busy years of testing, which includes the longest running test since becoming a U.S. Air Force operated facility, AEDC Hypervelocity Wind Tunnel 9, at remote operating location White Oak, Md., is going through a seven-month major maintenance event.

Dan Marren, site director of Tunnel 9, explained that an extensive outage for maintenance occurs at the facility once every five to ten years.

"Maintenance procedures require an extended outage to maintain, repair and replace components that are rarely opened up," he said.

Though testing is halted during an outage, the staff at Tunnel 9 remained hard at work. According to Marren, all of the operational personnel are also directly involved in the maintenance and refurbishment of the facility.

"At first glance, it may seem that this would be a great time for the crew to take a much needed break after such a sustained period of high operations tempo," he said. "Unfortunately, that is not the case since the same operations crew is also the maintenance crew at White Oak.

"Instead system engineers, technicians and support staff shift gears to move from direct customer support to a myriad of activities aimed at getting the facility back to high readiness for the next decade of customers."

The test engineering staff has been busy planning for the technical part of the return-to-service test, Fiscal Year 2016 customer



An extensive outage for maintenance occurs at Hypervelocity Wind Tunnel 9 once every five to ten years. After a complete tear down and refurbishment, the facility's operation and maintenance staff rig one of nine high-pressure control valves in order to lift it into place. These valves are uniquely designed to handle the volumetric flow rates of the wind tunnel. (Photo by AJ Spicer)

testing and business development for the future. Marren stated in their "down-time" the engineers are reinventing instruments, diagnostics and methods to bring an even better knowledge base to customers.

"The test engineering team has been developing their temperature sensitive paint capabilities, boundary-layer transition diagnostics and new high Mach

velocimetry techniques," he said.

And if things were not busy enough, summer is the time when workforce development efforts are in full swing at Tunnel 9, and a group of undergraduate students work together with graduate researchers and our staff on significant advances in

See TUNNEL 9, page 3



These three driver large vessels can be pressurized to 40,000 pounds per square inch and are one of the enabling technologies that make Hypervelocity Wind Tunnel 9 unique. During major maintenance they are rolled outside of the tunnel building into a maintenance bay. The gray steel fixture, pictured, is used to extract the central plug out of each driver vessel. (Photo by AJ Spicer)

## AEDC test personnel see their work in action

By Deidre Ortiz  
ATA Public Affairs

Four AEDC test personnel took the opportunity to join AEDC Aeropropulsion Branch Deputy for Operations, John Kelly on his latest trip to Toledo, Ohio, to see the F-16 Fighting Falcon operations.

In addition to his work at AEDC, Kelly was an F-16 crew chief at the Ohio Air National Guard (ANG), 180<sup>th</sup> Fighter Wing.

Kelly said since he's worked at AEDC he's invited several aeropropulsion ground test personnel to visit the unit and see firsthand how the work at the Complex "supports the warfighter." On this trip were 1<sup>st</sup> Lt. Benjamin Hoff, 1<sup>st</sup> Lt. Michael Parmentier, Kyle Todd and Rich Walker.

"The visit provides the chance to experience real world flightline operations," Kelly said.

The 180<sup>th</sup> Fighter Wing flies and maintains F-16 Fighting Falcons, which uses an F100-



Members of the AEDC Aeropropulsion Combined Test Force pose with John Kelly (center) after his retirement ceremony in front of an F-16 Block 42+ with the F100-PW-229 engine from the 180<sup>th</sup> Fighter Wing, Ohio Air National Guard. Pictured from left are 1<sup>st</sup> Lt. Benjamin Hoff, Kyle Todd, CMSgt. John Kelly, 1<sup>st</sup> Lt. Michael Parmentier and Richard Walker. (Photo Provided)

PW-229, an engine that has undergone accelerated mission testing at AEDC, with more than 10,000 test hours in the sea level (SL) test facilities alone. The F100 recently accomplished a Service Life Extension Program (SLEP), which

was validated in the SL-3 test cell. The 180<sup>th</sup> Fighter wing was the first operational unit to receive a SLEP F100.

"Our mission is to support the warfighter and a lot of our

See PERSONNEL, page 3



Dr. Donald Malloy is presented the AFMC Senior Civilian Scientist/Engineer of the Year Award by AEDC Commander Col. Rodney Todaro. (Photo by Jacqueline Cowan)

## Dr. Malloy receives 2015 AFMC award

By Deidre Ortiz  
ATA Public Affairs

AEDC Lead Aerodynamics Analysis Engineer Dr. Donald Malloy was selected as the recipient of the 2015 Senior Civilian Scientist/Engineer Award, one of the awards presented as part of the Air Force Material Command (AFMC) Science, Engineering and Technical Management (SE&TM) Awards.

Malloy was selected for demonstrating innovation initiative and technical expertise, leading efforts to increase the safety and performance of current and future military aircraft, resolving complex technical issues jeopardizing the fielding of new capabilities and improving the accuracy in the prediction of

See MALLOY, page 3

### In This Issue....

**Arnold hosts POW/MIA Remembrance Day**

...Page 2

**Senior Master Sgt. Lazarus retires after 23 years of AF service**

...Page 3

**Klingensmith and Timmons receive awards**

...Page 3

## HIGH MACH

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- Align with customer goals and objectives
- Use disciplined and innovative processes
- Continually improve in all that we do

# Arnold hosts POW/MIA Remembrance Day

By Melissa Warren  
American Society of Military Comptrollers

The Middle Tennessee Chapter of American Society of Military Comptrollers is sponsoring a Prisoner of War and Missing in Action (POW/MIA) Remembrance Day run/walk Sept. 16 as part of the National POW/MIA Recognition Day.

The National POW/MIA Recognition Day begins each year by the President issuing a proclamation commemorating the observances to remind the nation of those Americans who have sacrificed so much for their country. Observances of National POW/MIA Recognition Day are held across the country on military installations, ships at sea, state capitols, schools and veterans' facilities.

The opening ceremonies for POW/MIA Recognition Day at Arnold will be held at 11 a.m. You are invited to join us at the Administration and Engineering (A&E) building track for our run/walk where the POW/MIA guidon will be carried in honor around the track.

A burger burn fundraiser will be held at 10:30 a.m. – 1 p.m., Sept. 16.

This year, also as a fundraiser, new t-shirt designs will be on sale Aug. 10-28. Look for more t-shirt sales information through email and on the Team AEDC homepage.

All proceeds from the burger burn and t-shirt sales will be donated to a POW/MIA organization so they may continue to accomplish their mission.

For more information call 454-4339.

**NATIONAL POW/MIA RECOGNITION DAY**

Fulfilling Our Nation's Promise

September 18, 2015  
[www.dpaa.mil](http://www.dpaa.mil)

# Arnold Police provide personal safety tips for travelers

By Arnold Police Department

Personal safety is crucial while traveling. If you're far away from home, you're out of your element. You don't know the way around town or the high crime areas to avoid, so you're more vulnerable.

The tips below can help keep you safe whether traveling in the United States or abroad.

### Travel with a group

Criminals are more likely to target a lone individual than a pair or group. Experts say personal safety increases with each additional person in a group. Career criminals in prison agree: they prefer targeting someone who's alone. The more people they're involved with, the more work there is, and the greater likelihood something can go wrong.

### If you must travel alone

Take extra care, particularly at night: stay away from unknown areas without a guide. Many cities have guided walking or bus tours to areas of interest. Women are often more vulnerable because of size and strength, but men traveling alone also face greater risks.

### Know where you're going

Use the Internet, library, or travel guides to research the site before you leave home. Ask around. Other people you know may have visited your destination recently. If going abroad, check travel warnings. Research the availability of local emergency medical care.

### Don't lure a thief

Keep a low profile. Dress and behave conservatively. Leave expensive watches, jewelry and high-end purses at home. Don't be an attractive target or provide easy access to anything you would feel it necessary to fight to keep.

### Be aware of where you are and who is around you

If someone tries to distract you, watch for accomplices; secure your person and possessions. Dark doorways, narrow passages and big crowds require special vigilance. Even when traveling with a group, frequently check over your shoulder and either side. Alert your companions if you see anyone suspicious.

### Keep track of important travel documents, passport, credit card, tickets and/or money

Your pocket, purse or day pack should have only as much cash as you're

willing to give a thief. Keep everything else in the hotel safe or secured under your clothing, preferably under two layers. A camera should be under a windbreaker or shirt; while one person takes a picture, the other should watch for thieves moving in to steal the camera or pick the

photographer's pocket.

### Avoid involvement with local police, even as a victim when traveling abroad

Reporting theft of items of little value may not be worthwhile. You don't want to lose days of vacation or miss an impor-

tant connection over insignificant items. If assaulted, yell loudly to attract help and draw attention to the thief; avoid fighting back if possible. In some countries, a local policeman or crowd may sympathize more with a hurt local thief than with the foreign tourist who hit him.

Honoring Our Veterans AEDC VA Picnic

Friday, Oct. 9  
Arnold Lakeside Center

To volunteer call 454-5631 or 454-4334

# 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 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

# Senior Master Sgt. Lazarus retires after 23 years of AF service



Senior Master Sgt. Patrick Lazarus (right) accepts his Certificate of Retirement from retired Col. Rick Petito, the ceremony presiding official, at the Arnold Lakeside Center, July 31. Lazarus retired from the Air Force after serving 23 years. Seven of those years were served at AEDC as the superintendent of the Complex and the Test Systems Sustainment Division. (Photo by Rick Goodfriend)

By Raquel March  
ATA Public Affairs

Colleagues and family celebrated with Senior Master Sgt. Patrick Lazarus during his retirement ceremony at AEDC after 23 years of service with the U.S. Air Force.

Lazarus was assigned to Arnold Air Force Base in March 2008, where he served as the superintendent of the Complex and the Test Systems Sustainment Division. At Arnold, he oversaw more than 600

contractor personnel who are responsible for maintaining an \$11 billion test support infrastructure.

He also advised base command on enlisted concerns and the morale and welfare of 1,500 DOD civilians and contractor workforce.

At the retirement ceremony, Lazarus was presented with the Meritorious Service Medal, First Oak Leaf Cluster for meritorious service.

The award cited that Lazarus, “distinguished

himself in the performance of outstanding service” to the United States and AEDC as superintendent.

Lazarus also received a certificate of retirement and appreciation signed by the Air Force Chief of Staff Mark A. Walsh III and the AEDC commander Col. Rodney Todaro. An additional certificate of appreciation was also presented which was signed by the Commander in Chief Barack Obama.



AEDC Aerospace Engineer Gene Klingensmith (right) accepts the William M. Dunne People's Choice award from AEDC Commander Col. Rodney Todaro during the AEDC Quarterly Awards Breakfast at the Arnold Lakeside Center July 22. (Photo by Jacqueline Cowan)

By Raquel March  
ATA Public Affairs

Gene Klingensmith, an AEDC aerospace engineer, recently received the William M. Dunne People's Choice award for outstanding support

for the AEDC Aero-propulsion Ground Test Branch.

A nomination for the award cited Klingensmith for his initiative and selflessness in managing turbine engine testing and lending his

engineering expertise to test projects.

He also met 100 percent of the test objectives and assisted in saving \$1 million in testing.

Klingensmith has worked for AEDC 20 years.

## Klingensmith receives William M. Dunne People's Choice recognition

## Timmons receives AEDC Safety Achievement Award



Denny Timmons (right), with the AEDC Test Support Division, accepts the AEDC Safety Achievement Award from AEDC Commander Col. Rodney Todaro at the Complex quarterly award breakfast July 22. (Photo by Jacqueline Cowan)

By Raquel March  
ATA Public Affairs

Denny Timmons, Air Force Civil Engineering Center (AFCEC) Restoration Program manager at AEDC, was awarded the AEDC Safety Achievement Award at the quar-

terly award breakfast July 22.

Timmons was cited, by an award nomination, for “ensuring safety is the number one priority in the execution of the Installation Restoration Program, Military Munitions Response Programs and Op-

erational Range Assessment projects at Arnold Air Force Base.”

His proactive safety behavior included actions to control hazardous conditions, which could cause injury.

Timmons has worked at AEDC since 2006.

### MALLOY from page 1

aerodynamic behavior of future military aircraft.

His efforts consistently ensured that ground test benefits were maximized and delivered timely, accurate and actionable results. Maj. Gen. Thomas Masello, commander of the Air Force Research Laborato-

ry, congratulated all AFMC winners for their efforts.

“Their outstanding accomplishments and contributions to the S&T (Science and Technology) community demonstrate the quality of work that we do and strengthen our reputation as a center of

scientific and technical excellence,” he said. “Thank you for your hard work and dedication to our mission. Great work!”

Of the 20 AFMC award winners for 2015, Malloy is one of nine who are nominated for awards at the Air Force level.

### TUNNEL 9 from page 1

testing and evaluation technology and analysis.

“I think I can safely say the team at White Oak is looking forward to getting back to testing every day, which in many respects might actually

seem like a respite to the long and often unpredictable nature of this type of maintenance activity,” Marren said.

The maintenance project is scheduled to come to an end by September,

when return to service activity will commence bringing Tunnel 9 back online just in time to support a new set of DOD customers and a facility upgrade expanding the test envelope to Mach 18.

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### PERSONNEL from page 1

personnel never get the opportunity to see these jets in person and see them fly, let alone actually touch the jet and hear the crew chief and pilot during their pre-flight checks,” Kelly said.

Todd agreed that the trip is not one he'd soon forget.

“Observing the flight line operations of an F-16 fighter wing was a unique experience that few engineers get the opportunity to see. It was extremely insightful to learn from the user how they operate and maintain the engines we develop here at AEDC and the issues they encounter in the field.”

In addition to seeing the aircraft in flight, the group also toured the unit's engine shop, where they saw engines being torn down, inspected, repaired and tested in the field.

Walker, a test manager

for the Engine Test Facility at AEDC, stated the best part was to “see how what we test here is used by the people in the field who need it to work.”

“Their enthusiasm was awesome, and it was great to speak with those men and women whose job it is to defend our country with the equipment we are developing here,” he added. After 28 years of service, Kelly retired from the Air National Guard as a chief master sergeant, which he notes made this particular trip that much more memorable.

“I was especially glad the guys got to be there for that,” Kelly said.

Walker said it was also an honor for the group to witness the ceremony and the “respect [the unit] showed for John.”

Kelly said he's proud to have been a part of the

180<sup>th</sup> Fighter Wing, which is a very active ANG unit supporting overseas contingencies, homeland security and a leader in total force integration. Kelly himself has been deployed three times, once to Qatar and twice to Iraq for Operation Enduring Freedom and Operation Iraqi Freedom.

Now that he won't be required to make the monthly trips to Toledo, he reflected on his years in the ANG and how it has impacted his career at AEDC.

“It was really cool to start as an F-16 mechanic and now working here as a test engineer developing new systems,” Kelly said. “I've been able to see the full acquisition lifecycle of a weapon system. It's always been great to see how being part of the ANG and my position here were complimentary to each other.”

## AF continues to work with DOD, OPM on cybersecurity incident

By Secretary of the Air Force Public Affairs Command Information

**WASHINGTON (AFNS)** – The Air Force maintains its commitment to protect personal information from cyber threats by continuing efforts with the Defense Department and the Office of Personnel Management to assist those impacted by the recent cyber incident involving federal background investigation data.

OPM and an interagency response team, including investigators from the FBI and the Department of Homeland Security, concluded that sensitive information, to include Social Security numbers, was stolen from background investigations of 21.5 million individuals.

“We sincerely regret this has happened and that so many people were impacted by having their key information at risk,” said Secretary of the Air Force Deborah Lee James. “Cybersecurity and protecting personal information of our personnel will always be a top priority for the Air Force. We will continue to support the DOD and OPM to ensure our personnel are protected.”

While background investigation records do contain some information regarding mental health and financial history provided by applicants and people contacted during the background investigation, there is no evidence that health, financial, payroll or retirement records of federal personnel or those who have applied for a federal job were impacted by this incident, for example – annuity rolls, retirement records, USAJobs.gov and Employee Express.

OPM will offer affected individuals credit monitoring services and identity theft insurance. This comprehensive, three-year membership includes credit report access, credit monitoring, identity

theft insurance and recovery services, and is available immediately at no cost to affected individuals identified by OPM.

In addition to assisting OPM and DOD, the Air Force remains committed to protecting its own information systems from attack. The Air Force privacy and information assurance officers work directly with program managers or system owners to ensure those systems which contain personal identifiable information have the proper security controls in place to prevent unauthorized access.

There are tools and techniques everyone can and should use to protect information in cyberspace.

“I want to stress again that our total force and their families need to be informed on how adversaries attempt

to gain access to our information,” said Lt. Gen. William J. Bender, the information dominance chief and chief information officer for the Office of the Secretary of the Air Force. “More importantly we must be vigilant and act to deter them: guard information by practicing good OPSEC (operations security), follow basic computer security practices and alert the proper security offices of anything suspicious.”

The Air Force has created a toolkit of information for cybersecurity and safety at [www.af.mil/cybersecurity.aspx](http://www.af.mil/cybersecurity.aspx). Additional information from OPM is available at <https://www.opm.gov/cybersecurity/>. This site contains details about what information was breached and what remedial actions and assistance will be made available.

### The process



Members of the 23rd Component Maintenance Squadron Propulsion Flight perform maintenance on a TF-34 engine July 27 at Moody Air Force Base, Ga. The 23rd CMS supplies the 74th and 75th Fighter Squadrons with TF-34s in support of Moody AFB's A-10C Thunderbolt IIs. (U.S. Air Force photo/Airman Greg Nash)

## Fill-er-up



An F-16 Fighting Falcon assigned to the 93rd Fighter Squadron, Homestead Air Reserve Base, Fla., prepares to be refueled over the Gulf of Mexico by a KC-135 Stratotanker assigned to the 507th Air Refueling Wing from Tinker Air Force Base, Okla., as part of an Employer Support of the Guard and Reserve Bosslift event hosted by the 482nd Fighter Wing at Homestead ARB July. (U.S. Air Force photo/Maj. Eugenia Ramirez-Griffin)

## This day in espionage history

By AEDC Industrial Security

information

**Aug. 21, 1987** – Clayton John Lonetree convicted of espionage and sentenced to 30 years imprisonment

❖ CIA Operations Center watch officer

**Aug. 22, 1984** – Charles Dale Slatten sentenced to nine years in prison for espionage

❖ Arrested August 1978 on charges of stealing a Top Secret technical manual on the KH-11 (“Big Bird”) reconnaissance satellite and later sold it to a Soviet agent

**Aug. 26, 1988** – Daniel Walter Richardson sentenced to 10 years in prison on charges of espionage, theft, etc.

❖ Disappointed at being told he was not qualified to work as a field agent (he wanted to join the covert part of CIA operations)

**Aug. 27, 1987** – Allen John Davies sentenced to five years in prison for trying to pass classified information

❖ Admitted he had met with Soviet agents but said his intent was a disinformation exercise to prove his abilities as a first-rate agent

**Aug. 28, 1986** – Jerry Alfred Whitworth sentenced to 365 years for 12 counts of espionage and tax evasion

**August 1978** – William Kampiles arrested on charges of selling Top Secret

❖ Dec. 22, 1978 sentenced to 40 years in prison

# Air Force upgrades 100-year-old technology

By Airman 1st Class John Day  
14th Flying Training Wing Public Affairs

**COLUMBUS AIR FORCE BASE, Miss. (AFNS)** – Spatial disorientation, the inability to determine one’s position in an open space, can lead to a dangerous scenario inside a cockpit.

The disorientation is caused when the body’s internal gyros do not match up with aircraft instrument readings and what the pilot expects to see. It occurs because current trainer technology is not of a high enough quality. However, that’s changing with the implementation of a new simulator, the GYRO Integrated Physiological Trainer II, into Specialized Undergraduate Pilot Training. Columbus Air Force Base joins Sheppard AFB, Texas, in operating the new technology.

The simulator will allow SUPT students to begin spatial disorientation training before they even enter the aircraft.

“What this will do is let the students get realistic, hands-on experience in an environment much like the one in the T-6(A Texan II),” said Maj. Michael Fleming, the 14th Medical Group Aerospace Physiology Flight commander. “Our

new simulator lets them be in the same sitting position and the same posture they would be in while flying and still experience that same spatial disorientation they would experience while flying.”

The simulator exposes users to typical vestibular (inner ear) and visual illusions found in aviation, teaching them to recognize, confirm, prevent and recover from spatial disorientation before they fly for the first time.

The former spatial disorientation simulator device was the Barany chair. By maintaining certain body and posture positions while spinning on the chair, it could give a sense of the effects, but not in a cockpit.

“We are literally replacing 100-year-old technology here,” said Capt. Sharon Elliott, the 14th MDG officer in charge of physiology operations. “Before we could use the Barany chair to manipulate (spatial disorientation), but now they will get to experience it in the most realistic environment possible.”

Fleming explained how the GYRO IPT II is able to simulate various sensations of roll, pitch, yaw, and the sense of acceleration and tilt felt during takeoff.

In addition to feeling the effects, GYRO IPT II users actually fly the simu-



Tech. Sgt. Benjamin Hoffman and Maj. Michael Fleming monitor Col. James Fisher on the video feed from the cockpit of the new spatial disorientation simulator Aug. 5 at Columbus Air Force Base, Miss. Hoffman and Fleming directed Fisher through various sensations of roll, pitch and yaw to induce spatial disorientation. Hoffman is the 14th Medical Group Aerospace and Operational Physiology Flight chief, Fleming is the 14th MDG AOP Flight commander and Fisher is the 14th Flying Training Wing vice commander. (U.S. Air Force photo/Airman 1st Class John Day)

lator in a fully interactive flight training environment, similar to that of the T-6A, and experience flying under those effects without the repercussions of crashing an actual aircraft.

“(Spatial disorientation) causes mishaps in the Air Force and so we have been looking for a solution to this problem for years,” Fleming said. “This device will save lives in the long run because it will prepare them for experiencing (spa-

tial disorientation) inside the aircraft, allowing them to respond and react to it faster.”

By January 2016,

Sheppard AFB; Vance AFB, Oklahoma; Columbus AFB; Laughlin AFB, Texas; and Joint Base San Antonio-Randolph, Texas,

will all have the simulators in their facilities and as part of the syllabus for student and instructor pilot training.

## Air Force promotes fatigue countermeasures

By Air Force Materiel Command Health & Wellness Team

**WRIGHT-PATTERSON AIR FORCE BASE, Ohio** – Human fatigue results from sleep deprivation. Fatigue has become a growing concern in the Air Force as sustained and continuous operations, along with global deployments, are stretching the ability of our forces to meet growing mission demands. Some Airmen may question whether fatigue is really a big enough hazard to worry about. Fatigue can decrease an Airman’s attention span and reaction times, and can impair their mental process, which can lead to increased probability of operational errors, mishaps and off-duty accidents. Ensuring that Airmen get the proper amount of sleep has become a serious challenge.

The Air Force defines fatigue as the state of tiredness associated with:

- Long hours of work
- Prolonged periods without

sleep

- Physiologic stressors of the flight environment
- The requirement to work at times that are out of sync with the body’s biological – or circadian – rhythms

To raise awareness about fatigue and disseminate information to Airmen regarding strategies for its management, the Air Force Medical Operations Agency has developed and published the Air Force Fatigue Management Guide. Highlights of the guide include: understanding the nature of fatigue, fatigue countermeasures, good sleep habits and advice for handling unavoidable sleep loss.

One hard-copy of the guide will be distributed to each current and incoming Airman during the next year. The point of contact for distribution of the guide is the installation’s Medical Group. An electronic guide is also available; instructions to

download can be found at the AFMCwellness.com website or by contacting a Med Group point of contact.

Civilian Health Promotion Services will be offering classes on sleep health during the month of August. Civilian employees can obtain their “Guide to Healthy Sleep” booklet by contacting their local CHPS team or visiting [AFMCwellness.com](http://AFMCwellness.com).

# BREAKING BARRIERS

46th Society of Flight Test Engineers International Symposium

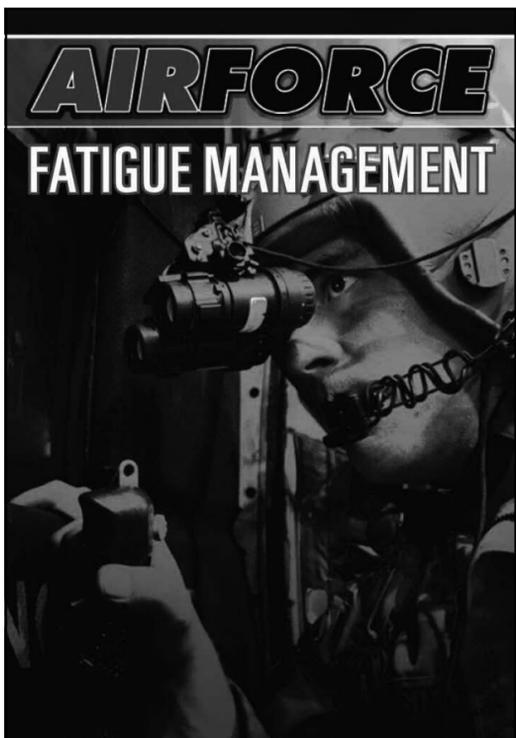
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14-17 September 2015

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For more info, visit [www.sfte2015symposium.com](http://www.sfte2015symposium.com) or contact [av.sfte@gmail.com](mailto:av.sfte@gmail.com)



# AF vice chief of staff retires with nearly 44 years of service

By Staff Sgt. Whitney Stanfield

Secretary of the Air Force Public Affairs Command Information /

**WASHINGTON (AFNS)** – Airmen said goodbye and good luck to the Air Force vice chief of staff during his retirement ceremony on Joint Base Andrews, Md., Aug. 7.

Almost 44 years and 18 assignments later, Gen. Larry O. Spencer stood in front of friends, family and Airmen for the last time in his Air Force career.

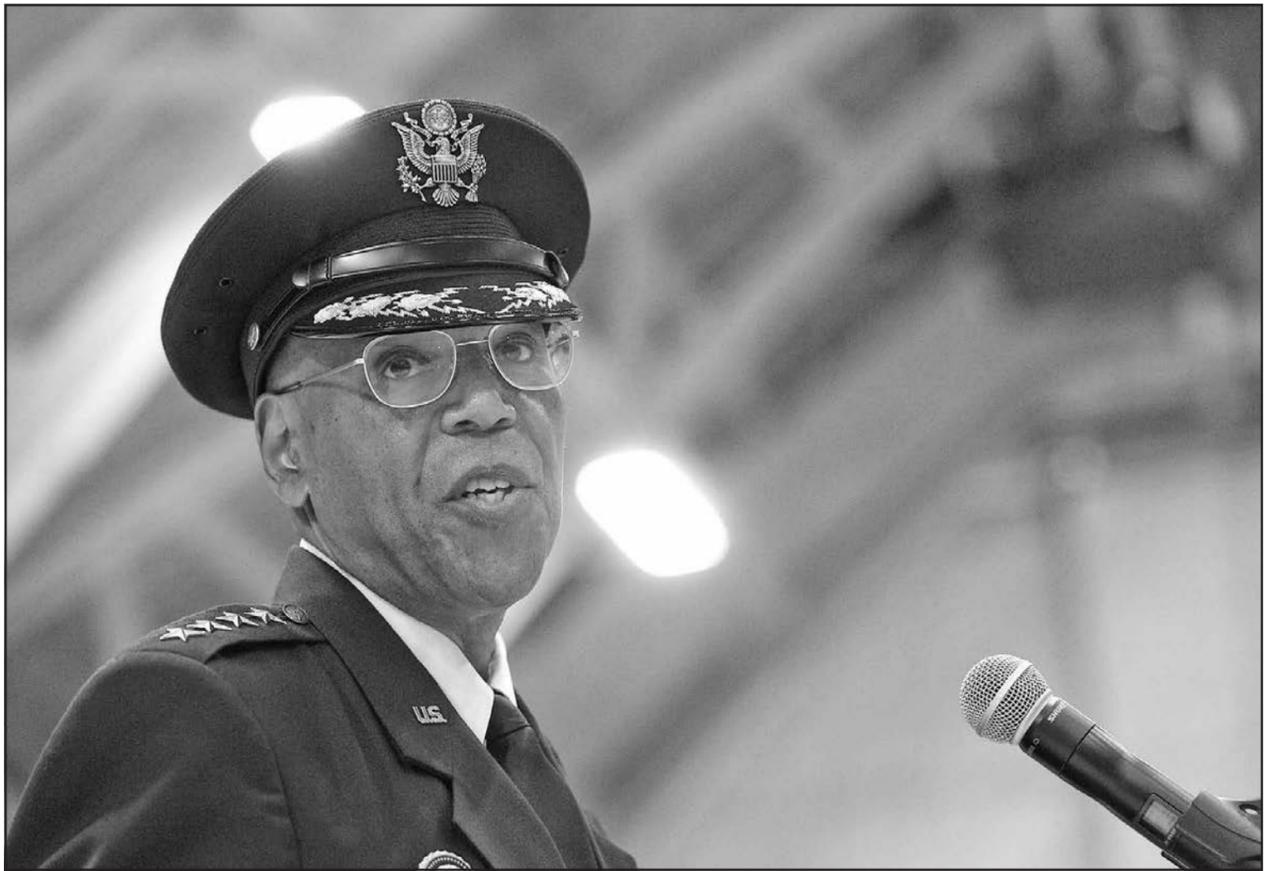
“God placed me in the Air Force and took me from airman basic to a four-star general,” Spencer said, “which must be classified as a miracle.”

Spencer, a native of Washington, D.C., enlisted in the Air Force in 1971. He earned his Bachelor of Science degree in industrial engineering technology from Southern Illinois University, Carbondale, and became a distinguished graduate of Officer Training School in 1980.

“He was excellent at every job, big or small,” said Air Force Chief of Staff Gen. Mark A. Welsh III. “As a captain, he was listed as one of the Outstanding Young Men of America.”

During his career, Spencer held several extraordinary positions, including the first Air Force officer to serve as assistant chief of staff in the White House Military Office.

“Larry has told people for years, don’t be scared of competition. That’s what makes us stron-



**Air Force Vice Chief of Staff Gen. Larry O. Spencer speaks to attendees during his retirement ceremony at Joint Base Andrews, Md., Aug. 7. Spencer enlisted into the Air Force in 1971 and was commissioned as a second lieutenant Feb. 14, 1980. (U.S. Air Force photo/Scott M. Ash)**

ger. It’s what’s makes us a better Air Force,” Welsh said. “And every time people look at the food chain, in Larry’s specialty areas, he tends to be at the top.”

Although retired, Spencer’s heritage will live on in the form of the Gen. Larry O. Spencer Innovation Award, established on

March 20, 2015, by Welsh. The award will annually recognize Airmen who come up with creative and efficient ways to save the Air Force money and time. The award represents Spencer’s devotion to Airmen throughout his career and his steadfast support of the “Every Dollar Counts”

campaign.

“During the next phase in my life, I hope to attend more football games,” Spencer said. “It would be a nice retirement gift if my team did well this year.

“People have asked me how I feel about being in Washington, D.C. for so long and I can only

sum that up with a quote from Martin Luther King Jr., and that is, ‘Free at last, free at last, thank God almighty I’m free at last,’” Spencer said.

The ceremony concluded with a long line of people waiting to say their goodbyes and to thank Spencer for his service.

## AF funds development of high-performance munitions technology

By Timothy Anderl

Air Force Small Business Innovation Research/Small Business Technology Transfer program office

**WRIGHT-PATTERSON AIR FORCE BASE,**

**Ohio (AFNS)** – Critical Air Force missions take place both day and night in locations around the globe. In some cases, the use of high-performance munitions is critical to mission success.

As a result, the Air Force Small Business Innovation Research/Small Business Technology Transfer program office recently provided nearly \$400,000 of additional funding for a SBIR effort

that will give the warfighter an affordable, high-performance millimeter wave seeker technology for high-performance munitions.

“MMW seekers are active radar seekers with the capability to both transmit and receive information,” said Thomas Lewis, an Air Force Research Laboratory researcher involved in the project. “Because they provide their own illumination, they can be used day or night. Additionally, because of the wavelength they use, they allow us to

see through both clouds and rain.”

Under the SBIR Phase II contract, L-3 Mustang Technology, located in Plano, Texas, will integrate an automatic target acquisition and tracking algorithm, intelligent target clustering and the capability to support a deployment demonstration. By updating, testing and demonstrating these capabilities, researchers hope to transition the technology to the AFRL Munitions Directorate’s advanced development GBU-X (Flex-

ible Weapons) program.

The GBU-X program is a cross-directorate AFRL initiative that seeks to mature key technologies that could enhance current weapons or lead to a new family of weapons made up of flexible, interchangeable, open system architecture components for sixth-generation aircraft. It explores two primary areas of technology research, including the development of open systems architecture with common interfaces to facilitate rapid technology refresh and configuration of the munition system to meet individual mission needs, and cooperative engagement strategies using networked and selectable effects munitions for increased robustness to countermeasures and improved endgame performance over baseline inventory munitions. The program is also examining supportability and affordability of a family of GBU-X weapons.

“Developing a common architecture that enables modular subsystems to achieve flexible weapons capability, while allowing us to refresh the technologies at the pace of better, more affordable and sustainable technologies as they are discovered and developed, is at the core of our mission,” said David Hayden, an AFRL researcher working on the project.

According to Hayden, the Air Force is interested in a mature automatic target acquisition approach that allows the Guided Smart Seeker to enter into closed-loop tracking without a human operator in the loop.

“One of the requirements we sought to meet was that the seeker possessed the ability to acquire targets and begin tracking them without



# Seventh WGS satellite launch successful after weather delay

By James Spellman, Jr.  
Space and Missile Systems Center Public Affairs

**LOS ANGELES AIR FORCE BASE, Calif. (AFNS)** – Five o'clock in the "City of Angels" typically signals the end of a day's hard work. It's a time when most Los Angeles metropolitan area commuters pile on to the freeways and Metro Rail system, returning to their homes during the long summer evening.

However, about 25 dedicated Space and Missile Systems Center personnel put off their mad dash to jam the streets of LA, and instead, gathered in the Gordon Conference Center at the Schriever Space Complex. Instead of having visions of the weekend ahead, these active-duty and civilian employees observed the culmination of their efforts 2,584 miles away at Cape Canaveral Air Force Station, Florida.

Featuring a newly updated Aerojet Rocketdyne RS-68A main engine for the first time on a rocket of its kind, a United Launch Alliance Delta IV Medium+ (5, 4) vehicle with a more than 16-foot wide, 47-foot long payload fairing and four solid fuel motors, soared from Space Launch Complex 37B at 8:07 p.m. EDT July 23. The vehicle carried the seventh Wideband Global satcom satellite into a super-synchronous 36,000-mile transfer orbit. The Air Force communications satellite will join a constellation of WGS satellites already on station, providing global coverage to the U.S. military and its allies.

"This is the seventh installment of the WGS system. The satellites are an important element of a new, high-capacity comm system providing communications capability to our troops in the field," said Ron Fortson, the United Launch Alliance's director of mission management.

Meanwhile, back in California, the appreciative audience watched the launch as part of the eighth "SMC

Launch Presents" event since 2014.

Hosted by Capt. Nick Laliberte, the government mission integration manager from SMC's Launch Systems Directorate, these "launch and learn" sessions offer a prelaunch mission briefing and a Q-and-A session to explain what occurs during the countdown and the mission timeline in between the launch and satellite separation.

Just one week earlier a similar, although larger, audience of more than 150 SMC personnel gathered the morning of July 15 to watch the successful flight of a ULA Atlas V "401" launch vehicle carry the GPS IIF-10 satellite into orbit for the GPS navigation network. The fourth Atlas V launch of 2015 helped mark the 20th anniversary of the GPS constellation of satellites achieving full operational capability.

Launch managers were forced to scrub the WGS-7 mission the evening of July 22 for 24 hours, due to Florida's notorious summer weather. The stormy forecast proved too worrisome to roll back the protective mobile service gantry and leave the vehicle exposed during the afternoon fueling session.

Weather forecasters from the 45th Space Wing at Patrick Air Force Base, Florida, expected heavy thunderstorms in the Cape Canaveral area for the July 23 attempt, with anvil clouds and lightning being their primary concerns of violating launch criteria. Fortunately, the skies parted long enough for ULA's medium-lift launch vehicle to do its job.

"It provides the highest data-rate communications for the government," said Rico Attanasio, the Boeing director of Military Satellite Communications.

Boeing is the builder of the WGS fleet and ULA has launched all of the spacecraft to date. The satellites supply communications such as maps and data to Soldiers on the battlefield, relay video from unmanned aerial re-



A Delta IV Medium+ (5, 4) rocket carrying the seventh Wideband Global satcom satellite aboard lifts off from Cape Canaveral Air Force Station, Fla., July 23. (Photo courtesy/United Launch Alliance)

connaissance drones, route voice calls and data messaging, and even offer quality-of-life considerations like TV broadcasts and email delivery to the troops.

"The WGS constellation continues to provide significant added capacity to our (Defense Department) space communications architecture," said Lt. Gen. Samuel Greaves, the SMC commander and Air Force program executive officer for space. "WGS

delivers crucial wideband communication to Soldiers, Sailors, Airmen, Marines and international partners around the globe. I am proud of the hard work and cooperation of the government and contractor teams on another successful WGS launch."

With three more satellites in production, the WGS constellation is planned to have a total of 10 satellites on orbit by 2018.

## MUNITIONS from page 6

human intervention," Hayden said. "Intelligent target clustering is a capability that would give the seeker a more robust target tracking capability and reject any false alarms."

This program leverages more than \$400,000 in additional AFRL mission funds. The funds will help ensure the phase II project graduates to a phase III program that successfully transitions the technologies into military or private sectors.

The Air Force SBIR and STTR programs are mission-oriented pro-

grams that integrate the needs and requirements of the Air Force through research and development topics that have military and commercial potential. The SBIR program was established by Congress in 1982 to fund research and development through small businesses of 500 or fewer employees. The STTR program was established in 1992 to fund cooperative research and development projects with small businesses and nonprofit U.S. research institutions, such as universities.



# AEDC Woman's Club meeting scheduled Sept. 1

By Barbara McGuire  
AEDC Woman's Club

During the AEDC Woman's Club (AEDCWC) meeting Sept. 1 at the Arnold Lakeside Center introductions will be made of the new Complex Commander Col. Rodney Todaro and his wife Karen.

The meeting program will also present Sculptor Tracy H. Suggs of Wartrace, Tenn. Suggs presents shows everywhere from Washington, D.C., to New York City and her sculptures can be found in the United States Military Academy at West Point, a city park in Kosciusko, Miss., as well as in numerous churches, businesses and private collections across the country and Europe.

Tracy will be speaking about her sculpture, her inspiration, recent works and the vital role that sculpture plays in the history of civilization.

Table donations will go to The Motlow Ladies Philanthropic Society, which assists in providing college scholarships for women 23 and over. These women do not qualify for the HOPE Scholarships or do not meet other requirements to receive financial aid. Many are often single parents who want to become qualified for better jobs.

The meeting is open to the



Kate Canady (standing left), AEDC Woman's Club president hosted the club's August board meeting in Bell Buckle, Tenn. Pictured at the AEDC Woman's Club August board meeting sitting on the floor are members Susan Harris and Gale Klingelhoets; seated left to right are members Sande Hayes, Karen Todaro, Sandie Simms, Beverly Pratt, Barb McGuire, Patti Mathis and Liz Jolliffe; and standing is member Anne Wonder. (Photo provided)

public and provides the opportunity to meet the AEDCWC members and to 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.*

## Flying high: Strike Eagle pilot reaches elite milestone

By Airman Shawna L. Keyes  
4th Fighter Wing Public Affairs

**SEYMOUR JOHNSON AIR FORCE BASE, N.C. (AFNS)** – For F-15E Strike Eagle aircrew at the 4th Fighter Wing, flying through the skies is a part of their lifestyle. However, for

Lt. Col. Paul Hibbard, a 333rd Fighter Squadron instructor pilot, the clouds are almost like a second home.

Hibbard surpassed the 3,000-hour mark in the F-15E July 22, joining an elite group of fighter aviators.

"It's quite an honor," Hibbard said. "Not many fighter pilots accumulate

that many flight hours and experience."

Hour one began more than two decades ago when he started his career as an F-15E pilot on Feb. 9, 1995, as a student in the first Basic Course held at Seymour Johnson Air Force Base.

"My first couple of hours in the Strike Eagle were exhilarating,"

Hibbard said. "What an amazing machine. The simulator and ground briefs prepared us for all of the procedures we would execute, but nothing prepares you for the kick in the pants, the G-forces and the mind-racing visuals of a flight in an F-15E. Over time, I've grown accustomed to the physical demands, but the joys of dominating the aerial environment haven't faded."

Following initial training, Hibbard explained he had a unique experience to be assigned to four different F-15E operational squadrons.

Hibbard has flown with the 494th FS at Royal Air Force Lakenheath, England; the 389th FS at Mountain Home AFB, Idaho; and the 335th FS at Seymour Johnson AFB. He's also spent time at the 90th FS at Joint Base Elmendorf-Richardson, Alaska, when F-15Es were assigned there.

"I've participated in operations or exercises supporting our national military objectives in over 21 nations throughout four continents," Hibbard said. "While amazing and rewarding, I wouldn't call it exceptional. Airmen, Soldiers, Sailors and Marines and (Defense

Department) civilians are making the amazing possible every day in places more far-flung than I ever experienced. They are the exceptional ones."

Hibbard has flown more than 1,550 sorties and deployed seven times throughout his Strike Eagle career. During that time, he learned no one is perfect, including himself.

"I don't want to be known as the guy with 1,000, 2,000 or 3,000 hours," Hibbard said. "Credentials don't mean much to me. Demonstrated performance was always, and remains, my benchmark, and that is only as good as your last sortie."

Upon landing from the sortie that took him over the mark, Hibbard's family and friends joined him on the ramp to celebrate his achievement. He said he was especially appreciative that his family was allowed out because they don't get to participate in a lot of what he does.

"So few Strike Eagle aircrew reach this milestone, and I didn't get there on my own," he said. "My wife of 22 years has supported me the whole way (as well as) all the unsung Airmen

doing their best to make this milestone possible."

As an instructor pilot, Hibbard is charged with training new Strike Eagle aviators during the qualification course. Lt. Col. Frederick Haley, the 333rd FS commander, said having someone with Hibbard's expertise provides an added benefit to those on hour one in the aircraft.

"There are only two other actively flying F-15E pilots who have achieved this rare milestone," Haley said. "The 333rd Fighter Squadron is fortunate to have an officer of such tremendous talent and rare experience committed to developing the next generation of Strike Eagle warriors."

Now a member of this elite Strike Eagle club, Hibbard plans to continue passing down his knowledge and expertise to all the younger pilots that come through his classroom.

"I can tell you the 3,000th hour didn't feel very different from the 2,000th or 1,000th hour, but it feels a lot different from that first hour," Hibbard said. "I look forward to being able to continue to fly the Strike Eagle for as long as the Air Force will allow me."



Lt. Col. Paul Hibbard, a 333rd Fighter Squadron instructor pilot, and Capt. Justin Thompson, a 333rd FS pilot, signal their crew chief as they taxi to the runway, July 22 at Seymour Johnson Air Force Base, N.C. After flying in operational squadrons for most of his career, Hibbard now instructs F-15E Strike Eagle aircrew on the intricacies of operating the aircraft. (U.S. Air Force photo/Airman Shawna L. Keyes)



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

**September  
2015**

Sunday Monday Tuesday Wednesday Thursday Friday Saturday

<p>ALC Dining Room Thu 5-8pm Fri 5-9pm Sat 5-9pm</p>		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	
27	28	29	30			

**Arnold AFB Services**  
**LIKE us**  
 on Facebook  
 and receive updates

ALC FREE THURSDAY MOVIES 6:30 PM

**Member Member Tournament** 12

**Sep 12**

for Advanced Green Fee Players only  
 2 person scramble  
 8am start  
 cart fee \$12  
 Sign up in advance  
 454-GOLF

26 Arnold Lakeside Center and Outdoor Recreation

**FISHING DERBY**

**Sep 26**

2 pm official check in  
**Crockett Cove**

2:30 pm shotgun start  
 Fishing until 4:30 pm  
 No advance spot selection

first 30 to register at 454-3350 receive rod and reel

**Casting Contest**  
 get bobber inside hula hoop

Ages 5-15  
 1<sup>st</sup> & 2<sup>nd</sup> place prizes  
 based on total length of fish caught  
 overall prize for longest fish

Bring your own fishing equipment, bait, chairs, snacks, etc.

**Fright Fest is coming Oct 30**

Start planning your skit for the  
**Scary Trail Competition**  
 1<sup>st</sup> place \$100 CASH!  
 Services gift cards 2<sup>nd</sup> \$75 3<sup>rd</sup> \$50  
 Call 454-6084 to enter or for more details

Arnold Golf Course **FootGolf**

Kicks Off 3pm Sep 25  
 Ribbon Cutting 4pm  
 Hamburgers & Hot Dogs \$1

Try the latest craze for FREE at this event

454-GOLF #kickngrass

Limited balls available. Bring your own identifiable #5 soccer ball. Best ball design wins 5 free rounds!

Open to the Public

**KEEP CALM AND PLAY FOOTGOLF**

Kicks Off Sep 25

