AEDC heralds successful first flight of X-51A Waverider

By Philip Lorenz III

AEDC employees' contributions played an important role, leading to the historic first flight of the X-51A Waverider.

Carson McAfee, ATA outside machinist and former, makes a control surface change to the sub-scale model of the X-51A Waverider during a break in aerodynamic testing at AEDC's von Kármán Gas Dynamics Facility in 2006. (File photo)

The situation could have proved fatal, but Bill's fellow engineers were able to breathe and pointed to Bill's situation and without hesitation performed six-to-eight compressions. The situation could have proved fatal, but Bill's fellow engineers were able to breathe and point to Bill's situation and without hesitation performed six-to-eight compressions. McAfee said Griffin first tried to dislodge the obstruction by forcefully coughing but was unable to do so. He then went to the nearby cubicle located in his nearby cubicle.
Air Force safety officials launch Critical Days of Summer campaign for 2010

Mentorship: Our unwritten core responsibility

By Col. Don Bacon

Ramstein Air Base, Germany - Air Force safety managers are at the forefront of the mission. As the Air Force grows its military leaders from within, one Airman can set the example for his or her peers to follow.

Many leaders take

Mentorship:
Our unwritten core responsibility

As much as you would

Values

Vision

Airman 1st Class Eric Ball


to go that route first, then if the situation isn’t made

Air Force Safety Center

Air Force

Air Force Safety Center

High Mach Staff

Kirkland AFB, N.M. (AFNS) - So is summer, and

Environmental excellence.

Our people and a model of

safety enjoy your off-duty time this summer.

But here’s the rub: we can only do so much teaching. Nobody but you knows that your unit is in with inherent difficulties. One of you may even be thinking, “This is a small world. I could have volunteered your best effort or expertise for you and herself and

The safety professional from the

the Safety Center won’t be at your door to remind you and your family. The only one who can make the decisions critical to

ensures a great sense of satisfaction

An Airman’s mentorship is essential to his or

Well, as you can see, the

the boat launch handing

on? Furthermore, he

of Air Force leaders (DoD-

When Eisenhower was

Airman’s mentorship is essential to his or her

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decisions.

Don’t be thinking, “This is a small

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smoke in their personal vehicles at any time. In case of inclement or cold weather, employees are encouraged to use their personal vehicles if a sheltered designated

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7V space chamber upgrade project provides cutting-edge capabilities to test customers

By Darbie Sizemore

High Mach Editor

Former astronaut, Undersecretary of Air Force to address crowd at Fellows Banquet

By By Darbie Sizemore

As a part of its duties as the Undersecretary of Air Force, Sega visited AEDC to share his perspective on the future of the Air Force, the role of AEDC, and understanding the environment.

During that visit, he said he was impressed with AEDC on several levels. 7V new Target Monitoring System provides an enhanced view and improved spatial resolution, saving the customer up to $18,000 per test, according to Elijah Minter, the 650th Test Systems Squadron’s investment program manager. (AEDC photo)

By By Darbie Sizemore

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By Philip Lorenzo III  

On May 12, the Tennessee Space Institute of the University of Tennessee at Knoxville hosted the organization’s Distinguished Lecturer program provided those attending the meeting with AEDC with a talk from Dr. Paul Bevilaqua. “I invited Dr. [Paul] Bevilaqua to come and speak because I thought the propulsion system—his contributions to the F-35 JSF—in turn would very well with AEDC and his work would be of special interest to us,” section chairman of AIAA, said meeting organizer Dr. Joe Wittenmyer, AIAA section council member and AIAA instrumentation and diagnostics engineer.

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India's Dr. G. K. Suryanarayana pays first visit to AEDC

By Philip Loeve III

A senior scientist of India's National Aerospace Laboratories (NAL) and a faculty member at the Indian Institute of Technology Madras, Dr. G. K. Suryanarayana visited AEDC April 6. The visit was a part of the ISTC at which he attended.

Dr. Suryanarayana is a world-renowned expert in the field of control and data acquisition. The organisation he represents is the aerosodynamic testing agency for all the major aerospace programs in India. Customs such as India’s Space Research Organisation and the Ministry of Defense bring testing to NAL, which is the aerospace component of India’s Council of Scientific and Industrial Research.

“Why does your organisation play such a central role in supporting India’s aerospace programs?”

Dr. Suryanarayana: The major aerospace programs in India require aerosodynamic testing, and we have the biggest transonic[/sup][/sub] and supersonic wind tunnel in India. So, naturally, there come to us a lot of aerospace programs, and we have the required expertise to make the necessary measurements using the correct test techniques, and that is why our users know we are already familiar with AEDC.

Dr. Suryanarayana: Some of our models have been tested in AEDC, maybe in the late 1970s or 1980s. One of the models [that] has been tested at AEDC was a model of a combat aircraft.

Dr. Suryanarayana: Earlier you mentioned a former boss of mine whom you described as a long-time mentor who after a 40-plus year career at NAL, is now a consultant. Now, who do you tell me about AEDC?

Dr. Suryanarayana: If you want to see a wind tunnel complex, go to AEDC.

Dr. Suryanarayana: This is my colleague, Sundar Murthy, [who] was perhaps here a long time ago. He might have come here to do AEDC or perhaps 25 years ago. He is probably in commission with Supersonic Tunnel Association International meetings that might have been held in AEDC at that point in time. I don’t know if you all knew AEDC and what the testing is (done here).

Dr. Suryanarayana: The Certified Automation Professional (CAP) exam.

Dr. Suryanarayana: What specifically did you do and your colleagues already know about AEDC?

Dr. Suryanarayana: What if my director will also hear him and I think it’s a good step forward, we should follow it.

Dr. Suryanarayana: What is your source for a collaborative relationship between AEDC and NAL?

Dr. Suryanarayana: Well, the kinds of facilities that you are very unique in the world and certainly cooperation with AEDC is going to help us, so I have no doubt about it. I’m looking at some kind of co-operation. We must do certain things that [both] AEDC and NAL get some benefit from. We talk about technical aspects, particular test techniques, etc. NAL also has an active group working on failure investigation.

Dr. Suryanarayana: The next step is to put forward my understanding [of AEDC and its capabilities] to certain agencies, entities or groups and tell them that this is what they can do and let’s do it. Let’s take it forward in this fashion.

Dr. Suryanarayana: Many of our experts here have their degrees from AEDC and we get some feedback from them back as consults.

Eight Receive Automation Professional Certification

By Shawn Jacobs

Eight AIAA IT21 (Information Technology and Systems) design engineers passed the International Society of Automation (ISA) Certified Automation Professional (CAP) exam April 6.

The CAP program requires each applicant to have a four-year technical degree, five years of field experience, a complete seven-module study course and pass a comprehensive four-hour exam. It’s a large and respected organization in the field of controls and data acquisition.

The certification is part of the AIAA objective to raise technical excellence. “We have key areas that we want our folks to be on the leading edge of technology and it’s a part of our ongoing commitment to bring best industry methods to AIAA.”

Director Mark Riggen said, “This is a result of part of that initiative.”

The AIAA group — one manager, three group leads, one system architect and three design engineers — includes Mickey Gibson, Tom McCoy, Al Milhorn, Bill Shipley, Scott Sisk, Fred Wagon, Larry Whitene and Sabrina Williams.

Eight received their Certification in April. From left to right are: Larry Whitene and Sabrina Williams recently passed the International Society of Automation Certified Automation Professional (CAP) exam. Also pictured are Mark Rigney, center, director, ATA Public Affairs; Mark McCutcheon, Engineering Systems; and Debbie Buyes, deputy director, right.
By Col. Michael Panarisi

So you’ve hustled through circuit planks, wore out three pairs of running shoes, and had to change the batteries in your fancy new heart rate monitor.

But now you are wondering, “What’s next?”

Well, plenty. If you’ve been following along, and your aerobic engine is running better than ever, maybe it’s time to add a few highertone. In this edition, let’s look at strength training, and how different techniques offer different outcomes.

As I mentioned earlier this year, before you consider a specific training regimen, you have to identify what you are trying to change in your performance or physique. In so many aspects of our lives, we set “goals” or “objectives,” but in fitness training, often we just say “improve my fitness” or something relatively unfocused.

We can’t fall into that trap… if we aim at nothing, we’ll hit it every time. If you want to build muscle mass to “look better at the beach,” you’ll need a completely different regimen than if you want to win the upcoming Mach 10 Triathlon. For the USAF fitness test, you need a balance between strength and endurance, but unfortunately, there just isn’t a great way to build both simultaneously. So if “strength” is your weakness, a relatively new technique might be the change you need.

To understand why we need different regimens, let’s review the physiological changes we can induce with exercise.

We can improve the signals going to the muscles, firing more fibers and getting more of them to “pull” at the same time. We can increase the size of the fibers. Or we can increase the blood flow, resulting in better oxygen delivery and waste removal.

While any challenge to the muscle will affect all three, we need specific routines to maximize results in one particular area. Unfortunately, the vast majority of the techniques we see are derived from “body building” where size is the goal.

Here’s how we can improve our performance or physique. As we try to change in your training, often we just say, “improve my fitness” where size is the goal. But unfortunately, the vast majority of the techniques we see are derived from “body building” where size is the goal.

As I mentioned earlier this year, before you consider a specific training regimen, you have to identify what you are trying to change in your performance or physique. In so many aspects of our lives, we set “goals” or “objectives,” but in fitness training, often we just say “improve my fitness” or something relatively unfocused.

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For strength training, getting all the fibers involved is the key. Sophisticates call this “recruitment.”

We have two basic types of muscle fibers: “slow twitch” and “fast twitch” and they work very differently. For optimum strength, we need to get both sets working together. For most of us, the “fast twitch” dominates, and the typical “three sets of 10 reps” training routines amplify this. If we want to get the slow twitch fibers in the game, we have to give them time. We’re looking to “maximize time under tension,” not time in the gym.

For this result, we need a very different routine. As many of us learned from Ken Morcky, the “long, slow and hard” method works very well. Instead of multiple reps, where the fast twitch fibers engage, rest and recover, this technique exhausts the fast twitch fibers in the few seconds, and then puts the slow twitch fibers front and center.

In this technique, we replace “reps” with a single, slow, constant application of force.

But it’s not a classic “isometric” technique where you press against an immovable resistance load. If you can keep the muscle in motion, the gains will be much higher than you can handle for “three sets of 10,” so a spotter is an absolute must.

It will take some experimentation to find the right load. If you can keep the weight moving for more than a minute, you’ll need to add some. Under 40 seconds? A little too heavy. You’ll notice one difference right away… your “perceived exertion” will be very high, but hang in there, in a minute you’ll be done. That’s right, one cycle will get you there. Then you move to the next exercise.

The real benefit of this technique is the “aches” so many of us suffer the next day become a distant memory.

Those aches are NOT an indicator of a “good workout,” but rather an acumulation of tissue damage sometimes called “micro-tears.” The rapid force applications and reversals associated with repetitive motions are the culprit.

In a “three sets of 10” technique, there’s a tendency to move the weights quickly, and it’s the acceleration/deceleration at each end that overloads the muscle fibers. Ken described this way… a 25-pound weight placed slowly on your foot will feel very different compared to a 3-pound weight dropped slowly from 12 inches above your foot. We’re going for the 25 pounder in this technique. This very different (and admittedly counter-intuitive) technique will stress your patience, but hang in there! Want proof?

Before you try it, do the “one minute push up” test. Ask Ron (our crack fitness instructor and a former Airman) to take you through the tech nique. Give this regimen six weeks at three times a week, and test again. The results will speak for themselves. Plus, all that time you’ll save you can apply towards shopping for a newer and fancier heart rate monitor!

And you’ll really appreciate how much you won’t hurt in the process.

In this case, not hurting is good!
AEDC's new baler reduces cost, time and improves recycling capability.

By Debbie Stamm

June 4, 2010

In December, a crew filming for the Discovery Channel's "How Stuff Works," was at AEDC to interview athletes. The program, "How Whiskey Made America," aired Sunday at 8 p.m. on the Discovery Channel.

While here, the crew and filmed the fuel processing plant tour conducted by AEDC's Safety Chair Bill Lock. One of the things the crew was interested in was the volatility of alcohol, by showing its usefulness as a propellant. "I evaporated it in a large flask," Lock said. "Then I put in an ignition source and, as the vapor washed out of the bottle, it demonstrated why it's not a good idea to use some alcohol in their V2 rockets." Lock also demonstrated how British sailors would ensure they were being paid a fair wage. "If they wanted to burn rum on wages in rum and they often conducted a simple test to see if they were being paid the correct amount with too much water. "The sailors would mix equal parts rum and gunpowder and light it on fire," Lock said. "If the alcohol content was sufficient, then when it burned off, it would ignite the gun power. If their rum was too weak, they wouldn't burn off and they'd get paid a fair wage." Lock added that whiskey is the drink that is guaranteed to make you think. "That's because there's a lot more to white lightning than just a bottle of alcohol. You may not know that whisky paved our roads, gave us television and even made us explore the solar industry and discover how whiskey changed the world."
June blood drive starts Monday

The American Red Cross blood drive takes place starting Monday. Employees may donate at any location during work hours, subject to supervisory approval.

While all blood types are needed, there is greater need for Type O. Type O is used in trauma cases where there is no time to cross-match blood types and it is the most common type of blood transfused to newborns. Every two seconds someone in the United States needs blood components, but sadly only 5 percent of the population that is able to give actually donate.

Locally, patients need 800 pints a day. AEDC personnel can support fellow workers, neighbors and local communities by donating blood. The hours and locations are listed above.

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While all blood types are needed, there is greater need for Type O. Type O is used in trauma cases where there is no time to cross-match blood types and it is the most common type of blood transfused to newborns. Every two seconds someone in the United States needs blood components, but sadly only 5 percent of the population that is able to give actually donate.

Locally, patients need 800 pints a day. AEDC personnel can support fellow workers, neighbors and local communities by donating blood. The hours and locations are listed above.

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Junior Golf Academy
Government

Mulligan’s Grill

Arlo’s

Nile...
mum of 10 participants to hold the clinic. Maximum clinic size is 25. Bring poles if you have them. Some poles will be provided.

This clinic will get you ready and show you the aspects of fishing, which, if you do properly, could have you catching fish all day.

Learn the proper ways to cast, reel in a fish, tie knots, know the best weather for fishing and how to recognize the best places to fish.

There may be a competition at the end to see how you learned the skills. The winner will receive a prize.

Fishing Classic is a Family Member/Youth and Outdoor Rec event set for June 19 at the Rec Beach from 7:30 a.m. – 1 p.m. for ages 4 and older.

Entry fee is $10 per person and $20 per boat. Trophies will be presented to first, second and third in each age group ($8, 9-12, 13-17, 18 & up) plus trophy for biggest fish. See the complete article in Family Member/Youth Programs. Call 454-5003 for more information and to register.

Beach Volleyball Tournament is back June 26 at the GLC beach. Start off your season with some fun outdoor volleyball. Competition gets underway at 10 a.m.

Lunch will include hot dogs, chips, sodas and water.

Teams of four consisting of ages 12 and older must enter by June 21. Entry fee is $30 per team. Late registration fee of $50 will be applied after June 21. There must be eight teams signed up and limited to no more than 24. The tournament will be single elimination. Each team will play a two-game match against another team as a warm up before beginning the tournament. The winning team will receive a trophy.

Swimming Lessons set for June 21-25. There will be two age groups for the swimming lessons. Age 6 months to 4 years old will be the Parent-Tot group. The other will be age 4 and up.

Classes are held Monday through Friday at the Gossick Leadership Center beach. The first class will be 10-10:50 a.m. and the second class will be 11-11:50 a.m.

Cost is $15 for Members, $17 for nonmembers. Deadline to sign up is June 18. There will be a $5 late registration fee after that date.

Upcoming Events:

Cumberland Caverns Spelunking and Scenic Adventure, July 24, 8 a.m.-3 p.m., age 10 and up, $41

Indoor Rock Climbing Adventure, Urban Rocks Gym in Chattanooga, Aug. 7, 8 a.m.-5 p.m., age 14 and up, $38

Ocoee Rafting Trip, Aug. 14, 6:30 a.m.-6 p.m., age 12 and up, $65

Ocoee Rafting Trip, Sept. 18, 6:30 a.m.-6 p.m., age 12 and up, $65

Blue Man Group, Tennessee Performing Arts Center, Nov. 20, 5 p.m.-12:30 a.m., age 10 and up, $85

Wingo Inn 454-3277

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

Wingo Leadership Center 454-3024

The Wingo Leadership Center (GLC) is now part of the Services Division. Events such as meetings, conferences, luncheons, dinners, etc. may be booked through the Services Conference Center Manager (CCM) up to one year in advance. Requests must be made in writing by e-mail to arnold_glc@arnold.af.mil. All event coordinators are required to sign an agreement.

Official unit functions are authorized at no charge and are defined as bona fide official meetings or training held as part of the normal duty day. Unofficial and private functions may be held for authorized users at a fee.

Community members may host events with the approval of the Services Director for a fee. Outside food and beverages are not allowed. First consideration must be given to Arnold Lake-side Center. In the event they cannot accommodate, an outside source may be utilized with CCM approval.

For more information contact the CCM at 931-454-3024.
Paris (AFNS) - U.S. and French civilian and military leaders paid their respects to America's first combat pilots during a ceremony at a memorial outside of Paris.

Gen. Roger Brady, the U.S. Air Forces in Europe commander, U.S. Ambassador to France Charles Rivkin, French Lt. Gen. Paul Fouilland, the Strategic Air Forces commander, several local elected officials and nearly 200 guests gathered at the Lafayette Escadrille Memorial’s central Arc de Triomphe to pay tribute to the 68 American pilots who died in service to the Allies during World War I.

"This is sacred ground for the U.S. Air Force and French air force and this was an opportunity for us to remember those who sacrificed for the cause of freedom," General Brady said. "This was also a chance for us to renew our relationship with the French air forces, which is one of the stronger relationships we have and cherish. The history speaks for itself, but this is the beginning of military aviation, and certainly the beginning for the U.S. Air Force. It has been a pleasure to be here with our French Allies and renew that relationship."

The event opened with a four-ship flyover of Mirage 2000N jets from the 2/4 Lafayette Strike Squadron from Luxeuil Air Base, France; a two-ship flyover of F-16 Fighting Falcons from the 52nd Fighter Wing from Spangdahlem Air Base, Germany; and a flyover of a vintage N3N biplane flown by a retired French air force pilot.

The guest speakers, which included the mayor of Marnes-la-Coquette, General Brady, General Fouilland, Ambassador Rivkin and Patrick Strzoda, the prefect of Haut-de-Seine, spoke of the Lafayette Escadrille's heroic deeds and paid homage to the American and French servicemen currently supporting military operations around the world. Following the speeches, the dignitaries placed wreaths on the memorial and the USAFE Honor Guard fired a three-volley salute. The French air force and the USAFE bands provided musical support for the event.

After the ceremony, all attendees were afforded the opportunity to visit the underground crypt beneath the monument to see the 70 sarcophagi honoring the Lafayette Escadrille airmen, as well as see 13 stained glass windows depicting various battles.

One of the special guests of honor was the great-nephew of one of the interned American servicemen, Maj. Raoul Lufbery, who said coming to the memorial fulfilled a lifelong dream.

"It was something I wanted to do all of my life," said Raoul Lufbery III, bearing the name of his great-uncle, from International Falls, Minn. "This is something I'll be able to take back home and share with the rest of the Lufbery family. This is an honor for the family and we are proud to be associated with the Lafayette Escadrille.

Enshrined with the American pilots are two French officers who commanded the unit before the U.S. entered the war.

U.S., French remember America’s first combat pilots

By Capt. Tony Wickman

A crowd gathers to see a ceremony at the Lafayette Escadrille Memorial outside of Paris honoring American and French pilots who died during World War I.

(Photo by Capt. Tony Wickman)