AEDC team members were recently recognized for their outstanding performance in management by receiving an AEDC 2017 SE&TM Award. "This award is a testament to the exceptional work and dedication of our team members," said Dr. Mark Mehalic, expressed his respect for the team members in a message to the workforce. "I am honored to congratulate the following individuals and teams for being selected as the AEDC winners for the 2017 SE&TM Awards." Award winners, winners, award winners in teams and their respective teams:  Award winners, award winners in teams and their respective teams, are:

- **Junior Military Scientist/Engineer**
  - John Claybrook, 704th Test Group
  - Mugdal, Test Operations Division

- **Senior Military Scientist/Engineer**
  - Jose Diaz, 704th Test Group

- **Mid-Career – Military Scientist/Engineer**
  - Brandon Lacy, Test Operations Division

- **Technological Management**
  - Timothy McCamey, NAS

**Support**

- Tony Echols, Test Operations Division

**Division, Technical Management**

- Team Members:
  - John Claybrook, AF
  - David Schwarz, AF
  - Michael Malloy, AF
  - William Overcast, AF
  - Ryan Bowlden, AF
  - Tracey Alphon, AF
  - Jonathan Carroll, AF
  - Lyndie Davis, AF
  - Randy Nicholson, Quantitech
  - Kimberly Mlod, Quantitech
  - James Hargray, Quantitech
  - William Bart, NAS
  - Candace Woodall, National Aerospace Solutions, LLC (NAS)

Guest speaker reflects on diversity, education at AEDC African American Heritage Committee luncheon

**Engineers Week activities include 15 local schools**

**NEW AEDC GROUND VEHICLE FUELING**

**AEDC White Oak site director receives 2017 AIAA Ground Test Award**

**Dan Marren, director of the Hypervelocity Wind Tunnel 9, AEDC White Oak, Maryland**

**Dan Marren, director of the Hypervelocity Wind Tunnel 9, AEDC White Oak, Maryland (AEDC Photo)**

**Dan Marren, third from left, provides a briefing for Maj. Gen. David A. Harris, commander of the Air Force Test Center, and guests touring Hypervelocity Wind Tunnel 9, located at the AEDC White Oak site at the Federal Research Center in White Oak, Maryland. Marren, director of the AEDC White Oak site, has recently been selected to receive the 2017 American Institute of Aeronautics and Astronautics Ground Testing Technical Committee’s Ground Testing Award for his innovation, inspiration and leadership in support of the development and application of test capabilities nationwide and the impact on ground test methods and techniques. (U.S Air Force photo/A.J. Spicer)**
Guest speaker reflects on diversity, education at AEDC African American Heritage Committee luncheon

By Deivya Ortiz
AEDC Public Affairs

The annual AEDC African American Heritage Committee African American History Month luncheon was held at the Arnold Lake- side Center Feb. 16 as part of Black His- tory Month.

This year’s theme for Black History Month, which was established by the Association for the Study of African American Life and History, or The Genius of Black Education, focusing on the crucial role of education in the history of Afri- can Americans.

As someone with a great deal of experi- ence in educating black students, Dr. Andrew Hugine Jr. president of the Agricultural and Me- chanical University in Huntsville, Ala. was the guest speaker at the lun- chon.

In introducing Hugine, Dr. Mark Melahal, AEDC ex- ecutive director, stated that out of all of Hugine’s many ac- colades, he was per- haps most impressed by the fact that he had once been a high school math teacher.

“Do that as a profession and it’s a very, very noble,” Melahal said.

“It’s a very im- portant and pow- erful tool, the early part of a child’s education is why we need to get it right and why we need to get it right the first time.

Hugine began by not- ing how having events such as these luncheons, rec- ollecting the history, the culture and achieve- ments of African Americans.

“It is important that we take the time to reflect and ac- knowledge the im- portant historical contribu- tions that have been made by African Americans.

“We should be aware of this whole and did a won- derful job of this year’s theme through the message he deliv- ered,” Walker said.

Walker said “He inspired us to continue working to- wards the ‘DREAM’ of equality for future generations.”

In honor of Hugine’s remarks at the area, the City of Tullahoma, received the AAHC, Luncheon Feb. 16, 2017, as Dr. Andrew Hugine Jr. Day.

As a histori- cal African American, Hugine earned a doctorate in education, from im- mense contributions to the nation, and it does in- fluence and engineer- ing.

Over two-thirds of the PhDs in ex- pecting the highest are African Americans,” he said. And this is important because of the many other researches that are coming over the U.S. government and the ter- ritories higher education and of African Americans.

Reading from a repor- ty by the Robert- et Lynch Center for American Progress, Hugine stated that if the U.S. were to close the gap between black and white Americans, the economic value would be nearly $2.3 mil- lion larger by 2050.

He continued, “This is not just in the nation’s educa- tional achievement will provide future bulwark relief.”

According to A- rousing Walker, mem- ber of the African Ameri- can Heritage Com- mittee, the luncheon was a great success this year.

“Hugine was very, very impressed that he not only and a wonder- ful job of this year’s theme through the message he deliv- ered,” Walker said.

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Engineers Week activities include 15 local schools

By Paul Kelly
AEDC Technical and Management Advisory Services Contract

The theme for this year’s Engineers Week was “Dream Big”.

Many high school and middle school students took part in local events designed to help them dream big.

The first event, MATHCOUNTS® competitions, took place Jan. 28 at the University of Tennessee Space Institute and the four top scoring individuals not on the winning team. The competition challenges mathletes to solve problems. Shown from left and back row is AEDC chief of Test Systems Sustainment, Col. Raymond Briggs; The Webb School team members, Nicky Dai, Zia Wang, Nathan Xing, Barret Melson; MATHCOUNTS Coach, Lee Anne Windham, from The Webb School; front row, East Middle School student Kyler Parker; West Middle School student Preston McGee; and East Middle School students Jake Bennett and Franklin Zhang. (Courtesy photo)

The Tullahoma team will include The Webb School team members Nicky Dai, Barret Melson, Nathan Xing and Zia Wang, Franklin Zhang, Kyler Parker and Jake Bennett of East Middle School; and Preston McGee of West Middle School. Sam Robinson from Highland Rim Elementary will be an alternate.

Fifty students from Highland Rim Elementary in Lincoln County, the Webb School in Franklin County, East and West Middle Schools from Tullahoma, and St. Andrews-Sewanee in Franklin County participated in the event which consisted of 5 rounds – a sprint round, a target round and a team round.

In the sprint round, the contestants had to answer 30 problems in 40 minutes on an individual basis and calculate. For the target round there were eight problems given to all the contestants. They had two 15 minute sessions to do the target round. The team round had problem solving and collaboration of the four-member team to answer 10 questions in 30 minutes.

Third place went to Highland Rim Elementary, a kit of supplies ranging from paper clips to egg cartons. Once they built a device, they were encouraged to test it before the competition. The students had a blast, and each team came up with a unique solution. A scoring equation which accounted for payload, time and presentation was used to determine the winners.

Third place went to Sarah Clancy and Joe West of Cookeville County Middle School. They used a fuel cell to power. The students had a blast, and each team came up with a unique solution. A scoring equation which accounted for payload, time and presentation was used to determine the winners.

The Tennessee MATHCOUNTS® competition, sponsored by the Tennessee Society of Professional Engineers as a local event. The theme for this event was “Dream Big”.

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By AEDC Safety

The Safety Condition Campaign focus for the month of March is on Hazardous energy control, using lockout, tagout procedures.

The purpose of the Safety Condition Campaign is to identify those tasks that make compliance with safety requirements a challenge, to ensure we are in compliance with the Air Force safety standards, and to establish consistency across work locations.

First of all, it’s important to remember that a danger tag alone is never considered adequate lockout/ tagout protection.

The Safety, Health, Environmental (SHE) Standard for Lockout/Tagout addresses the control of hydraulic, pneumatic, steam, mechanical, electrical systems, powered machinery, hazardous gases, utility systems or other energy sources that could cause hazards to personnel or equipment due to unexpected start or release.

It shall be used to ensure that any equipment, machine or system is stopped, isolated from all potentially hazardous energy sources, and locked out before employees perform any servicing or maintenance operation.

It applies to all AEDC personnel and operations, including Air Force, Navy, Army Corps of Engineers and contractors (including subcontractors) at the Tennessee location and operations conducted by AEDC personnel outside the confines of Arnold AFB. Training requirements (to include use and inspection) for subcontractor personnel training requirements are established and provided by their management.

There are 10 basic steps for following the Lockout/Tagout (LOTO) Procedures. They are:

1. Identifying all energy sources and procedure development. An initial survey shall be made to identify all the system/equipment’s sources of power or energy (including stored energy sources such as electrical capacitors, springs, or elevated movable components) so that each energy source can be isolated.

2. Notifying all affected employees. Everyone who normally uses the equipment being serviced shall be informed of the LOTO procedures being used and instructed not to start or energize the equipment.

3. Shutting down equipment. Using appropriate equipment shutdown procedures, all controls shall be turned off.

4. Locking out equipment. Locks shall be applied to isolate each power source to prevent the operation of the equipment controls. One lock shall be applied to each point of protection.

5. Applying danger tags. Both lockout and tagout shall be required except where the equipment and its energy supply cannot accept a lock, in which case alternate means of protection that are equally as effective as a lock shall be used.

6. Relocating or blocking any stored energy or movable parts. Any stored energy that may remain in the system shall be safely released. This may include draining energy out of a capacitor, blocking and bleeding down a steam line, or lowering elevated components that may fail. Equipment components that may move and injure someone shall be physically blocked in place.

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8. Conducting the desired work on the system/equipment.

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10. Removing lockout and tagout device(s).

OVERVIEW from page 3

cards, a first place trophy and a year’s free use of their names engraved on the Spirit of St. Louis model that is on display at the Hands on Science Center in Tullahoma.

The Engineer for a Day event took place Feb. 22 at AEDC. Thirty-eight students from Cascade High School, Community High School, Coffee County Career High School, Franklin County High School, Lincoln County High School, Moore Coun-

ty High School, Oakland High School, St. Andrews-Session Station, Warren County High School and The Webb School partici-

pated in the event.

The students were wel-

come by the Commanding Officer, Col. Rodney To-
dard, and watched a film presentation about AEDC. A question and answer period followed during which the students were given a chance to ask ques-
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After lunch, students were paired with engineer-
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Dr. Cotting described the Test Pilot School as the place where pilots and flight engineers work hand in hand to achieve a Mole-
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Mr. Martin, Cotting’s Science and Mathematics coordi-

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Dr. Martin, Cotting said he worked for Lockheed Martin, which is something we can all improve on.

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formation provided to AIAA.
— as a lifetaking student, he has performed numer-
grams, directed test campaigns, managed test assets, and led the development of the next generation of testers. His passion for test and demonstrated excellence in the science of test have proved invaluable to programs, research organizations and univer-

Marren is commercial for the leader-
ship and experience he has demonstrated as part of the AIAA. He has served the Ground Test Technical Committee in working groups and standing committees, producing several AIAA products, conference

with several other individu-
als, he helped set a new standard for tech-
cial committees that continue today and has positioned the GTTC as a model for other groups,” according to the nominating

— literally as chair, as he has planned, proposed and directed several short courses on
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ience and technology community, Mar-

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tests, students and researchers in a way that produced valuable testing skill sets and created local student matter experts.

Nancy Anderson, a senior staff member

of the John Hopkins University Applied

Physiology Laboratory, said she is personally

ning many of my own wind tunnel tests at

engineer, resulting in me ultimately run-

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At the end of the snake arm is a multi-axis maneuverable head that includes multiple lights, small cameras, and a port to which inspectors can easily attach a variety of nondestructive eddy current inspection tools, including eddy current probes. The system is easily portable and can be relocated in the inspection areas for quick setup and use. A laptop computer records the full robotic motion, video camera images, and inspection data, as the robotic arm is easily maneuvered with the use of a familiar joystick game controller.

In January, AFRL demonstrated the RANDE Snake Arm tool at Hill AFB to engineers in the NDI laboratory and workshop, allowing them to experience its capabilities, range of motion, and ease of operation. "RANDE is poised to become an important tool for maintainers performing nondestructive eddy current inspection," said Charles Buynak, AFRL’s senior program manager. "This capability will enable them to look forward with confidence to decreased aircraft downtime, increased probability of detection, and substantial cost savings. Additionally, due to decreased aircraft disruption, potential aircraft damage is reduced. Maintainer health and safety is also increased, since inspections no longer require climbing onto an aircraft or wedging into tight spaces."

"With RANDE, we’re offering a new and better depot and deployable field solution to the NDI staff to gain experience in accessing and identifying its breadth of application for accessing and identifying its breadth of application for access to hard-to-reach spaces. This capability will enable maintainers to perform routine inspections and cost-efficiently in a variety of interchangeable probes to inspect aircraft structures. The system is adaptable to many hard-to-reach spaces and areas to perform required inspections, or simply look into tight spaces.

Typically, when military or field personnel perform routine inspections on hard-to-reach components such as the interior of aircraft wings, they first have to remove the wing, then remove additional structure within the wing so that inspectors can reach in with special handheld equipment. With RANDE, the need to remove the wing for inspection can be eliminated.

Maintainers only need five minutes to deploy the external access panels and maneuver the snake arm through an access hole as small as three inches in diameter. This streamlined process results in reduced maintenance hours, decreased costs, and quicker inspection preparation — and eliminates the possibility of maintenance-induced damage from the pre-inspection processes.

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The Remote Access Nondestructive Evaluation Snake Arm system is shown inspecting fasteners during a recent demonstration at Hill Air Force Base, Utah. (U.S. Air Force photo/Charles Buynak)
A newly-installed 134 kW photovoltaic array at Joint Base Pearl Harbor-Hickam, Hawaii, is part of the Pacific Energy Assurance and Resiliency Lab's automated renewable energy microgrid project demonstrating new ways for military facilities to address energy needs. (Photo courtesy of U.S. Air Force/Wright-Patterson Air Force Base)
Area students get glimpse into the day of an AEDC engineer

Engineer for a Day students listen to AEDC Test Operations Engineer Mike Eppinger, top right, as he explains how the Engine Test Facility Sea Level engine test cell is utilized. The Engineer for a Day program allowed prospective engineering students from local area high schools to visit AEDC facilities Feb. 22. (U.S. Air Force photo/Rick Goodfriend)

AEDC engineer Rylan Cox demonstrates the operation of an electron microscope to Franklin County High School student Collin Milliken he mentored as part of the Engineer for a Day program Feb. 22 at Arnold Air Force Base. Engineer for a Day, one of several 2017 Engineers Week activities during the week of Feb. 19-25, was held for area high school eleventh and twelfth grade students. After touring test facilities at the Complex, the group of 39 students had the chance to spend time with an engineer mentor in an area of their particular interest. (U.S. Air Force photo/Rick Goodfriend)

AEDC engineer Tom Hartvigsen, right, discusses AEDC inspection capabilities to prospective engineering students attending Engineers Week Engineer for a Day Feb. 22 at Arnold Air Force Base. Pictured with Hartvigsen is Coffee County Central High School student Andrew Godwin, far left, and Fayetteville High School student Mitchell Beverly. (U.S. Air Force photo/Rick Goodfriend)

As part of the Engineers Engineer for a Day activities Feb. 22, AEDC analyst Mary Forde, pictured left, explains flash point testing to students interested in Chemical Engineering. Visiting the AEDC Chemistry Laboratory are, pictured at right, Fayetteville High School student Kaytlin Hobbs and Community High School student Brandon Waller. (U.S. Air Force photo/Rick Goodfriend)
Queen of the Skies

The QF-16 drone took its first flight at Holloman Air Force Base, New Mexico, March 6, 2017.

The unmanned sortie was the first for the QF-16 at Holloman AFB since the retirement of the QF-4 Phantom in 2016.

The upgrade to the QF-16 allows customers to test weapons systems in real-world scenarios before reaching the battlefield.

“Our mission stays the same,” King said. “However, the QF-16 increases the capabilities we can offer our customers. The QF-16 is a fourth-generation fighter, while the QF-4 was a third-generation fighter. The QF-16 offers more realistic threat replication in performance, maneuverability and capabilities.”

“The QF-16 can fly manned or unmanned, depending on the mission and customer’s needs. “Our flying missions at Holloman are driven by our customer’s requirements,” King said. “Sometimes, when a system is brand new, we may just be flying straight and level with no maneuvers. As a system matures, the complexity of the missions will increase to test and validate the new system.”

The 82nd ATRS is part of the 53rd Weapons Evaluation Group at Eglin AFB, Florida. The group provides the personnel and infrastructure to test and evaluate weapons utilized by the combat air forces of the U.S. and its allies. It operates the only full-scale aerial targets in the DOD.

“In accordance with U.S. law, Title 10, Section 2366 of the U.S. Code, a missile system must undergo lethality testing before it can enter full-scale production. The 82nd ATRS maintains DOD’s sole capability to execute the Title 10 requirement with full-scale aerial targets.”