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Wind tunnel test cart enclosures upgraded to accommodate new systems

By Deidre Ortiz
ATA Public Affairs

The test carts for the AEDC Propulsion Wind Tunnel have received new enclosures to house the updated data acquisition and control systems.

"With new systems on the carts, we had to come up with a new enclosure to house that equipment," said Marc Smotherman, ATA project manager for the Improve Transonic Test Capability and Test Article Control System programs.

Though the internal data acquisition and control equipment in the enclosures is essentially the same, it was a requirement that the new enclosures be able to house the same equipment but also be lighter and reduce the time to access the internal equipment.

Another benefit is that the updated data acquisition and control equipment will increase reliability and improve data rates as well as system controls.

Smotherman mentioned the upgrade was completed at half the expected cost thanks to the work of the project team, which included members of PWT and the Model Shop.

"We initially expected each of the 11 enclosures to cost approximately $120,000, but the work was completed for $60,000," Smotherman said.

Phillip Krepp, ATA mechanical designer, headed the design for the new enclosures. Jeff Tate, ATA mechanical planner with the Model Shop, led the fabrication effort in developing a prototype enclosure that was used for verification of the design. Robert Reed, PWT Test Operations system engineer, then developed and executed tests to verify that the prototype met all system requirements.

So far nine of the 11 enclosures have been received. The remaining enclosures are expected to be delivered in May.

The AEDC Propulsion Wind Tunnel facility has received new enclosures for its test carts. These enclosures house the data acquisition and control systems. Pictured are Barry McCann, ATA Test Article Control System engineer, and Dale Schultz, ATA instrument technician, checking out the Cart Test Article Controls for the High Angle Automated System. ***(U.S. Air Force photo/Jaqueline Cowan)***

AEDC Commander announces 2016 Fellows

By Raquel March
ATA Public Affairs

Col. Rodney Todaro, AEDC commander, recently announced four past and present personnel as AEDC Fellows, recognizing their accomplishments to the Complex.

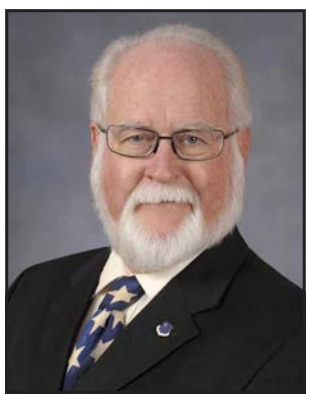
Tom Best and Dr. Rob McAmis will be inducted as AEDC Fellows, and Robert Lindeman and Claude Morse will be inducted as AEDC Lifetime Achievement Fellows. They will be recognized at the annual AEDC Fellows Banquet at the Arnold Lakeside Center on June 24 at 5:30 p.m.

An AEDC Fellow is recognized for personally making sustained, notable and valuable contributions in aerospace ground testing at AEDC.

Tom Best
AEDC Fellow

Dr. Rob McAmis
AEDC Fellow

Robert Lindeman
AEDC Lifetime Achievement Fellow



Claude Morse
AEDC Lifetime Achievement Fellow

Tom Best
AEDC Fellow

Best, an aerospace engineer, was selected as an AEDC Fellow due to his contributions toward captive trajectory technique and data delivery in testing, and project management for programs such as the space shuttle, the C-17 military transport aircraft, the Pershing Missile, Advanced Medium-Range Air-to-Air Missile, Standard Missile, Peacekeeper, High-Altitude Supersonic Target missile, Global Positioning System Block II, Antisatellite Miniature Vehicle sensor, Strategic Defense Initiative Boost Phase discrimination, F-16 Fighting Falcon, F-15 Strike Eagle and the Fixed Flow Ducted Rocket Development Program.

His earlier work on the space shuttle led to the development of the orbiter aerodynamic database and the solid rocket booster separation database. By working with the customer and an AEDC contractor, he was able to develop a plan that added substantial automation and instrumentation in the C-17 model during tests in the Propulsion Wind Tunnel 16-foot transonic wind tunnel allowing the high speed aerodynamic database to be completed in one entry, which set a standing production record for the facility.

Best, with a nationally recognized team of researchers, was also responsible for developing the Magnetohydrodynamic Accelerator Research into Advanced Hypersonics program, known as MARIAH II. The program brought about testing hypersonic propulsion systems at Mach 8 to 15.

During his 39-year career at AEDC he became a leader and supervisor of engineering and technology advancements at the Complex to include, recruiting scientists and engineers as technology leaders and lending his expertise to organizations such as the National Aeronautics Research, Development, Test and Evaluation Infrastructure Plan. Best's involvement with NARDT&E led to an increase in funding for AEDC to maintain and modernize its current facilities and to build new facilities.

His participation and sometimes leadership roles in other national and international aerospace organizations were also beneficial to AEDC. He was the technical project officer for Data Exchange Agreements on Wind Tunnels with Germany and the Netherlands. The role involved wind tunnel comparison studies between countries, joint studies of Reynolds number effects and sharing techniques for pressure sensitive paint ensuring technical collaboration.

See **FELLOWS**, page 2

Lt. Col. Walker 2016 AFMC Senior Military Scientist/Engineer Award winner

By Deidre Ortiz
ATA Public Affairs

Lt. Col. Anthony Walker

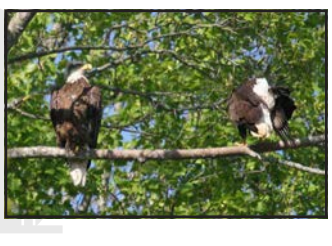
Lt. Col. Anthony Walker, Materiel Leader of the Aeropropulsion Ground Test Branch and Director of the Aeropropulsion Combined Test Force at AEDC, was selected as the recipient of the 2016 Senior Military Scientist/Engineer Award, one of the awards presented as part of the Air Force Material Command Science, Engineering and Technical Management Awards.

Gail P. Forest, Senior Executive Service member and director of Engineering and Technical Management, sent an announcement congratulating the recipients of the 2016 AFMC SE&TM Awards.

"I am pleased to announce the winners of the 2016 Science, Engineering and Technical Management Awards," she said. "The record number of nominees, high quality of the packages, as well as the significance of their achievements made it a highly competitive selection process."

The winners in the Junior, Mid-Career and Senior Military and Civilian Scientist/Engineer categories, Engineering Technician, General Randolph Engineering Team and Science and Engineering Educator will go on to compete at the Air Force level.

In This Issue....



HIGH MACH

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An Air Force Test Center Test Complex

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"ATA will be a trusted partner in delivering best value warfighter support and assert stewardship to AEDC"

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• Communicate clearly and openly
• Deliver professional and technical excellence
• Nurture, enable and treat people fairly
• Align with customer goals and objectives
• Use disciplined and innovative processes
• Continually improve in all that we do

Memorial Day a time to honor the fallen

By General Ellen Pawlikowski
Air Force Materiel Command Commander

WRIGHT-PATTERSON AIR FORCE BASE, Ohio – For many of us, Memorial Day kicks off the summer season. Families will gather for cookouts, go boating or swim at the pool. While you enjoy these activities, please be mindful of your safety. But as we spend time with friends and family, let us be reminded of the most important meaning of this day.

Established in 1868, Memorial Day was a day set aside to honor those lost in the Civil War. But many wars have gripped our nation since and many lives have been lost. I ask that you pause to honor the fallen Americans who served and died for their country. These brave men and women made the selfless choice to put service before self to protect our freedoms.

History is full of stories of service members who displayed exceptional valor. From World War I to today's engagement against terrorism, men and women have served with courage and honor. But many did not return to their homes and families. More than a million American Soldiers, Sailors, Coast Guardsmen, Marines and Airmen made the ultimate sacrifice defending our country.

We can never repay these courageous patriots who gave so much to protect our way of life, but we can use Memorial Day to honor them. And let us not forget to remember the families of the fallen--spouses, sons, daughters, mothers and fathers. They too have sacrificed.

Our fallen warriors deserve our deepest gratitude and remembrance. Their sacrifices must never be forgotten.

Gen. Ellen M. Pawlikowski Commander of the Air Force Materiel Command

FELLOWS *from page 1*

After Best retired in 2010, he joined the Arnold Community Council which is an organization of members who promote, protect and preserve the AEDC mission.

Dr. Rob McAmis
AEDC Fellow

McAmis's 32-year AEDC career, in rocket and turbine engine testing, includes many contributions that led to his selection as a Fellow. As a mechanical engineer, he was instrumental in developing the Rocket Motor Dynamic Data Analysis Code, the Structural Ballistic Risk Assessment Methodology, the flight test thrust specific impulse (ISP) for liquid rockets and the protocols for high cycle fatigue (HCF) characterization and demonstration testing.

The Dynamic Data Analysis code for rocket testing analyzes high response data to include vibration and accelerometer data. The code produces information such as time history, frequency tracking and power spectral density.

In the 1990s, McAmis created the SBRAM which was used during Minuteman rocket tests to predict internal ballistic performance of flawless and flawed rockets. Later in the decade he became the co-test conductor for the testing of the Pratt & Whitney RL10B-2 rocket used in the upper stage engine of the Delta III and Delta IV missile systems. His management led to a successful test program which certified the RL10B-2 used on the Delta IV rocket with 46 successful launches without a failure.

After he transferred to AEDC turbine engine technology in 2000 as chief engineer, McAmis developed the Aeropropulsion Technology Program which became a model for gathering test requirements and for program development. He also developed analytical tools and measurement systems to characterize HCF in military turbine engines.

During his supervisory role in the turbine engines analysis section in 2006, he led a team in propelling AEDC to being the Responsible Test Organization for Uninstalled Turbine Engine Testing.

McAmis was instrumental in preparing engineering graduates and recruits at the Complex for data analysis through a training program. The training would prepare the recruits for using the testing methods at AEDC. To continue the training path for engineers, he became a leader in creating the AEDC Ground Test University preparing additional engineers for conducting tests at AEDC by pairing them with mentors.

McAmis serves as the director of the ATA Integrated Test and Evaluation Department.

Robert Lindeman
AEDC Lifetime Achievement Fellow

Lindeman began his career with AEDC in 1975 as a senior controls engineer in the turbine engine and rocket test facilities. He is recognized as an AEDC Lifetime Achievement Fellow for his extensive leadership for multiple projects that sustain AEDC facilities and capabilities.

One of his earliest contributions to the Complex was providing the first microprocessor development system in the Engine Test Facility. He later led a team of engineers, programmers and craft personnel in the design and implementation of an automated control system for the flexible nozzle in the Propulsion Wind Tunnel 16-foot transonic wind tunnel and an improved model attitude control system for the PWT 4-foot transonic wind tunnel Independent Drive System.

During the 1990s, he provided leadership in the 7-foot and 10-foot Vacuum Space Chamber upgrade. The upgrade met research requirements for government organizations such as the Army, Air Force, Department of Defense and NASA.

From 1996 to 2006, Lindeman managed the PWT Sustainment Program for 16T and the 16-foot supersonic wind tunnel, and the ETF control upgrade. After the project was completed, the facilities had improved data acquisition and processing system hardware and software, improved test article and plant control systems, a new atmospheric air dryer, larger main drive motors, 16S flow quality improvements and automated operation.

Lindeman led and managed other sustainment projects such as the Integrated Test Operations Initiative for multiple AEDC business areas; the Space Threat Assessment Tesbed program, the Improve Transonic Test Capability and Improve Transonic Plant Capability programs, and the 16T Cart 1 A project which provides additional captive trajectory system support in a new test cart. The CTS is used for store separation testing of bombs, missiles or fuel tanks from an aircraft.

Lindeman is an ATA systems engineer and program manager in the Flight Systems Plant Assets Branch.

Claude Morse
AEDC Lifetime Achievement Fellow

Morse is recognized for 30 years of support in marketing the capabilities of AEDC to the media, national and international industry and local community.

He began his career at AEDC in 1972 as an Air Force captain in charge of the Complex public affairs and community relations activities and also oversaw the Arnold Research Organization Contractor Public Affairs office until 1975.

During this time, he worked with local, regional and national news media to make AEDC more visible to the civilian and aerospace communities. He also served on the B-1 Bomber Public Affairs Working Group where he helped to develop strategies and news releases to inform the public about the new strategic bomber.

Morse returned to the AEDC Public Affairs as a contractor manager in 1989 where he worked for three contractors until his retirement in 2009.

In 1989, Morse helped in the establishment of the AEDC Fellow program. He served on the committee until his retirement.

Morse developed a marketing display program to promote testing capabilities of the Complex. The display was used at approximately 28 aerospace trade shows and conferences for more than two decades. The displays were designed to appeal to government and industry program managers of military and civilian aerospace programs.

To enhance the effectiveness of the display, Morse managed the production of technical news articles and releases that would be released coinciding with the dates of the trade shows. The technical releases would also be used in technical publications produced by public affairs such as Test Highlights, and in the first edition of the European research and development magazine Aerospace Testing International that was distributed at the Farnborough Air Show in the United Kingdom in 2002.

Morse also created a 35mm six-projector, computer-driven, slideshow presentation that was used to brief customers and civic groups about AEDC. He updated the presentation to video after he advocated for funding of a digital video editing system and production facility. The video system also allowed for the production of marketing videos about testing at the Complex.

Additional contributions include the installation of the Video Teleconferencing facility; designing the Gossick Leadership Center; developing an Air Force Materiel Command award winning website for AEDC; reducing the cost of the base newspaper High Mach and increasing distribution to a twice monthly publication; coordinating three air shows; and producing the "Beyond the Speed of Sound" publication about the history of AEDC.

The Fellows Banquet speaker is David W. Duma, principal deputy director, Operational Test and Evaluation Department of Defense.

After Morse retired, he became a member of the Arnold Community Council to continue his support of AEDC.

David Duma, the principal deputy director of Operational Test and Evaluation Department of Defense, will be the speaker.

Duma assumed his position in January 2002. Prior to returning to government service, he worked in private industry managing a variety of projects involving test and evaluation; requirements generation; command, control, communications, intelligence, surveillance and reconnaissance; modeling and simulation; and software development. He was acting director, Operational Test and Evaluation from February 2005 to July 2007.

Since the inception of the Fellow program, AEDC has bestowed the complex's highest honor to a total of 87 individuals.

The AEDC Fellows Banquet is open to the public. For more information, call the Air Force Test Center, AEDC Chief Technologist office at (931) 454-6505.

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 selaed containers, must not be left unattended or disposed of in trash receptacles. Users of smokeless tobacco must flush tobacco waste down the toilet. Due to the nature, appearance, and safety concerns of electronic cigarettes (also known as "e-cigs"), the use of said products will abide by the same rules for tobacco products stated above and governed by AFI 40-102, *Tobacco Use in the Air Force*.

2. Supervisors at every level will ensure this policy is followed. Disciplinary action is appropriate for repeated violations.

3. Updates to this policy will be made in the future to further align with Air Force guidelines.

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

Action Line

Team AEDC

I believe in free and open communications with our Team AEDC employees, and that's why we have the Action Line available. People can use the Action Line to clear up rumors, ask questions, suggest ideas on improvements, enter complaints or get other issues off their chests. They can access the Action Line in one of two ways: via the AEDC intranet home page, and by calling 454-6000.

Although the Action Line is always available, the best and fastest way to get things resolved is by using your chain of command or by contacting the organization directly involved. I encourage everyone to go that route first, then if the situation isn't made right, give us a chance.

Col. Rodney Todaro
AEDC Commander

AcqDemo team outlines planned activities related to transition

By Ted Singer
Air Force Materiel Command AcqDemo Team Lead

WRIGHT-PATTERSON AIR FORCE BASE, Ohio – In late May to mid-June, Air Force Materiel Command employees who will transition into the Department of Defense Civilian Acquisition Workforce Demonstration Project (AcqDemo) will receive information detailing their individual conversion into the new pay system. The AcqDemo transition effective date is June 12, 2016.

Employees will be notified via letter through their supervisors and advised of their Position Requirements Document assignment. PRDs will identify the career path, broadband level, position tier and pay pool assignment. The PRD takes the place of the GS Standard Core Personnel Document or Personnel Document.

Town halls or informational sessions will be provided by officials at centers and complexes. These sessions will provide an AFMC AcqDemo overview, detail AFMC business rules and provide for question and answer sessions. Dates and locations of the town halls and informational sessions are forthcoming.

At an AcqDemo town hall meeting here in the AFMC headquarters on May 12, 2016, Gen. Ellen Pawlikowski, AFMC commander, said "AcqDemo takes the management of our civilian workforce out of the hands of the Air Force Personnel Center and puts it into the hands of MAJCOM leadership. AcqDemo allows supervisors the flexibility to hire the right people, develop skillsets as employees mature and reward employees based on their performance. Employees will be rewarded based on the effectiveness of their contributions, not by how long they have been here."

The first AcqDemo appraisal cycle, the Contribution-based Compensation Appraisal System, will be an abbreviated cycle covering the period June 12 through September 30, 2016. A contribution plan will be created as a joint effort by the employee and supervisor, and completed by July 1, 2016. The AFMC approved format for contribution plans is the Contribution, Results and Impacts format. Both AFMC AcqDemo employees and supervisors of AcqDemo employees, including military supervisors, should take advantage of Contribution Planning training to meet the July 1 deadline. The Contribution Planning module is available on-line, takes about 20 minutes, and can be found at the DOD AcqDemo site at ***http://acqdemo.hci.mil/training.html***.

AFMC will provide supplemental training on how to write contribution plans in the CRI format. This CCAS tools seminar will cover an overview of the pay pool process, provide in-depth information on contribution planning and self-assessment writing and will be offered starting in June 2016. It should be noted that contribution plans may be updated at any time during the performance period, so contribution plans may be revised/adjusted after the AFMC supplemental training seminars. CCAS seminars will be offered on site at major AFMC locations, with Defense Collaboration Services web-conferencing sessions scheduled at minor locations.

For additional information on AcqDemo:

- Within AFMC, contact HQ AFMC/A1KA, (937) 257-0112, DSN 787-0112
- DOD Civilian Acquisition Workforce Personnel Demonstration Project website ***http://acqdemo.hci.mil/***

Editor's note: This is the fifth feature in a series of Acquisition Demonstration Project articles.

NAS holds second round of all-hands meetings

By Bob Pullen
NAS Transition Public Affairs

National Aerospace Solutions held the second round of all-hands meetings for AEDC employees May 10, 11 and 12 to explain the interviewing and hiring process, and to inform people about the benefits that have been finalized, as well as those that are still in the works.

The transition period hit the halfway point mid-May as NAS moves toward assuming responsibility for the AEDC Test Operations and Sustainment contract.

"We've come a long way in the five and a half weeks since transition began and we couldn't have made it this far without the help of the people here at AEDC," said Cynthia Rivera, NAS general manager. "We are confident, that with your continued help, we will have a successful transition that will enable improvements in the test mission as we move forward."

As with the first all-hands meetings, the main theme of the presentation was People, Processes and Places. Rivera explained how the transition team has been working to ensure that employees at AEDC will have a better understanding of where they fit within NAS through mapping of current positions to the NAS organizational structure.

A large portion of the briefing was spent discussing the interview and hiring process for personnel and what to expect, as well as how people would receive official offers from NAS. Most of the interviews are underway at the Manchester Coffee County Conference Center and will continue until June 1.

Ben Souther, NAS transition manager, gave the briefing on hiring and benefits.

"We want to address some rumors we've heard," Souther said. "We've heard many people think NAS is going to bring in a lot of workers from outside AEDC to run these facilities, but that's just not the case. Less than two percent of the NAS workforce or 20 people will be from other locations. The rest will be hired from the incumbent workforce."

Employee benefits were also explained to the groups. Many of the benefits, such as health insurance, employee assistance, holidays and more have been settled and will be very close to what employees have now. During the meetings Souther explained that two benefits were listed as "in progress." However, as of May 13 the details of the 401k and paid time off were finalized. Brochures explaining all benefits will be given to people with their offers of employment.

National Aerospace Solutions held the second round of all-hands meetings for AEDC employees May 10-12. Pictured here at the University of Tennessee Space Institute auditorium is one of the smaller breakout sessions held with the attendees so the functional managers could better explain to people what positions to apply for under the NAS organizational structure. ***(Courtesy photo/Bob Pullen)***

The Processes part of the briefing explained how NAS transition staff are currently reviewing thousands of operating instructions and guidance material to ensure operations continue without impacting mission execution, even though the organizational structure will be different. This action known as "blue sheeting" will most likely continue into July.

Tom Currie, mission execution director for NAS, talked about adjustments in the organizational structure and Jeff Monahan, NAS Engineering functional manager, explained to current engineering employees about the NAS job posting titles compared to existing position titles.

"We have established a mission execution organization to ensure we position the workforce to support AEDC objectives and stream-line operations," Currie said. "We realize these job descriptions will look different to many of you, but we will help guide you in the right direction so you can apply for the position that best suits what you do today."

After the main briefing, smaller breakout sessions were held with the attendees so the various functional managers could better explain to people what positions to apply for under the NAS organizational structure. Handouts were also provided so people would know what to bring to the interviews.

The entire briefing is available in the NAS Announcements folder in the AEDC Contract Transition site on the employee homepage.

NAS will assume responsibility for the TOS contract on July 1.

Rumley and Goodfriend receive AFMC award

By Raquel March
ATA Public Affairs

AEDC history is documented and displayed in the halls of the Administration and Engineering building due to the efforts of AEDC Historian Chris Rumley and Rick Goodfriend, an AEDC photographer.

Their work earned them the 2016 Air Force Materiel Command Excellence in Heritage Projects Award.

The AFMC Excellence in Heritage Projects Award recognizes individuals, history offices or museums fostering a greater appreciation of the Air Force or its subordinate units as an institution or of aerospace power as an instrument of U.S. defense policy through pamphlets, displays, exhibits, videos, commemorative events or similar projects.

Rumley and Goodfriend collaborated in a year-long project of selecting and restoring photographs and drawings which depict AEDC test facilities, test items and personnel from the 1950s to the present. One-hundred images were restored, framed and mounted in the hallways of the three floors in the A&E building.

"The goal was to provide a mix of old and new testing photos and prints along each section of hallway to present the link from past to present," Rumley said. "Visitors and those

Chris Rumley
AEDC Historian

who work here daily view a visually attractive presentation of our history that focuses on our mission, our people and our future. This project would not have been accomplished without Rick's expertise."

See **AFMC**, page 4

Rick Goodfriend (second from left), an AEDC photographer, receives the 2016 Air Force Materiel Command Excellence in Heritage Projects Award during a presentation gathering April 20 in the ATA General Manager's office. Goodfriend and AEDC Historian Chris Rumley received the award for their efforts in restoring 100 historical AEDC photographs and drawings for display in the Administration and Engineering building. Pictured with Goodfriend, left to right, is ATA Deputy General Manager Jeff Haars, ATA General Manager Steve Pearson and ATA Quality and Management Systems Manager J.T. Northcutt. ***(U.S. Air Force photo/Jacqueline Cowan)***

Project Management Institute presents 'What I Have Learned as a Project Manager'

By Robert Lindeman
ATA Systems Engineer

The Project Management Institute Southern Middle Tennessee Branch will host a luncheon meeting at the University of Tennessee Space Institute June 9 at 11 a.m.-12:30 p.m.

The guest speaker will be Steve Pearson, general manager of ATA.

Pearson began his career in the 1970s as a turbine engine project engineer in the Engine Test Facility at the Complex. In 1985, he transferred to Sverdrup Technology and served in engineering, marketing and management positions for automotive and aerospace test facilities. His work included several projects outside the U.S.

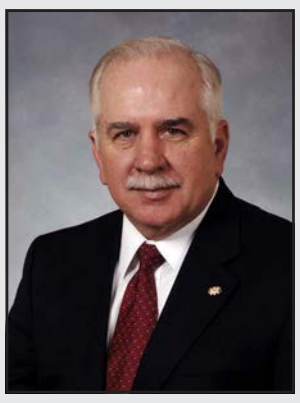
From 1988-1998 he served as a program manager for the master planning, design construction support and commissioning of the Chrysler Scientific Test Facilities in Michigan. From 1999 to 2002 he was the program director for the construction of the Department of Energy National Ignition Facility at Lawrence Livermore National Laboratory.

Pearson assumed a newly created role in 2003 as the first director of the ATA Resource Provisioning Department, laying the foundation for that organization's operation, and in 2006 he served as the director of the ATA Projects and Design Engineering.

In his previous roles with ATA, he led two enterprise-spanning departments at AEDC and served as the deputy general manager providing oversight for all test operations. He assumed the ATA general manager role in 2011.

Pearson earned his bachelor's degree in mechanical engineering from Tennessee Technological University.

The Project Management Institute is a not-for-profit professional membership association



Steve Pearson
ATA General Manager

for the project, program and portfolio management profession. PMI advances careers, improves organizational success and further matures the profession of project management through its globally recognized standards, certifications, resources, tools, academic research, publications, professional development courses and networking opportunities.

Call 454-5407 for additional information about joining the local branch or to make a reservation for the luncheon.

ATA donates $500 to Cowan Elementary STEM projects

The ATA Employee and Community Activities Committee (E&CAC) recently made a donation of $500 to Cowan Elementary School. The donation will assist students in a Science, Technology, Engineering and Math projects. Pictured left to right receiving the donation are students Lane Pearson, Shaquale Brown, Bayla Acklen, Ashlynn Goff, Maddie Gore and Emily Barnes with CES teacher Debbie Skotte and E&CAC committee member Ted Boswell. *(Courtesy photo)*

Make shift work safe work

By AEDC Safety

Many people think of "work hours" as the daylight hours from 7 a.m. or so in the morning until 5 p.m. or so in the afternoon.

But more than 20 million Americans, and several team members at AEDC, work a different shift. Those different shifts either start in the afternoon and end late at night, or begin around midnight and end in the early morning. If this applies to you, be aware that your safety is just as critical as the day crew, but that conditions and hazards may be a little different and there are a few more of them.

Special challenges associated with shift work are:

• It's more difficult to see in the dark. Artificial light can't illuminate every surface, which can result in more trips and falls. This also makes night driving more hazardous.

• Shift work may result in psychological problems for shift workers who fail to eat, rest and sleep adequately. Research indicates that some shift workers may suffer from depression and fatigue.

• Some new workers are shift workers because they lack seniority for day shift assignments. So while all new workers bring fresh sets of eyes to see hazards that experienced workers may not see, many of them may not see the hazards that the experienced workers are aware of.

Fatigue - the number one shift work safety problem:

Your normal body clock wants you to be awake, alert, and productive during daytime. It can be hard to adjust to a different schedule than what your body naturally wants. People "off schedule," can feel tired and less alert. They are less likely to notice a potentially dangerous condition, or to respond quickly in an emergency.

For example, more than 50,000 motor vehicle accidents per year are believed to be caused by sleepy drivers. Perhaps it's no coincidence that past disasters like the Three Mile Island nuclear malfunction and the Exxon Valdez oil spill happened at night.

Tips for dealing with fatigue:

• Keep a regular bedtime schedule. Your body can't adjust if you don't give it a chance.

• Keep your bedroom dark and quiet - have family or roommates cooperate with noise control.

• Avoid excessive use of alcohol, tobacco and caffeine, especially during the pre-sleep hours.

• If possible, try not to rotate shifts, which makes it more difficult for your body to adjust.

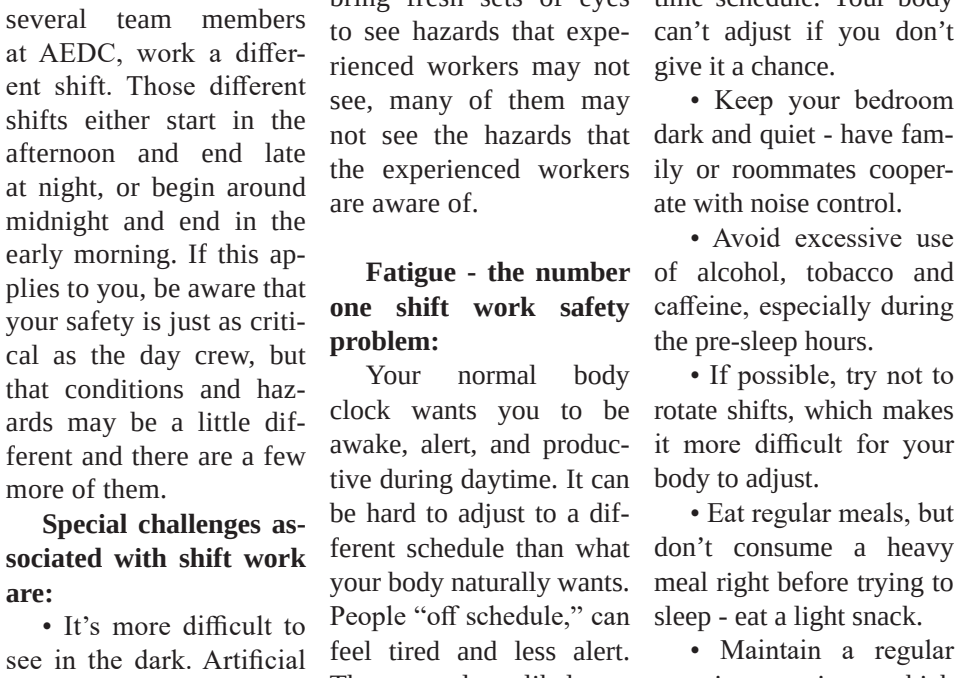
• Eat regular meals, but don't consume a heavy meal right before trying to sleep - eat a light snack.

• Maintain a regular exercise routine, which improves sleep and helps reduce overall stress.

• Most important of all, get enough sleep for your own, personal body needs.

Stay alert during your shift, and go home safely – whatever the time may be.

AFMC *from page 3*



The drawing pictured here shows a before (right) and after drawing that was restored by AEDC Photographer Rick Goodfriend for display in the Administration and Engineering building which depicts AEDC history. Goodfriend and AEDC Historian Chris Rumley received the 2016 Air Force Materiel Command Excellence in Heritage Projects Award for their efforts in restoring 100 historical AEDC photographs and drawings for display in the A&E building. *(U.S. Air Force photo/Jacqueline Cowan)*

Goodfriend's work was recognized by the Air Force Test Center commander, Maj. Gen. David Harris, in a congratulatory letter.

"There are so many amazing feats that occur each year at our impressive test facilities," Harris said. "Thanks to people like you these accomplishments will be well-documented for future generations of testers to learn from and be amazed by."

CHPS coordinators focus on wellness of AFMC workforce

By Air Force Materiel Command Health & Wellness Team

Civilian Health Promotion Services coordinators from across Air Force Materiel Command met in April to discuss strategies to enhance the health and well-being of the AFMC workforce. (Courtesy photo)

WRIGHT-PATTERSON AIR FORCE BASE, Ohio – Enhancing the health and well-being of the Air Force Materiel Command workforce was the focus of the Civilian Health Promotion Services coordinators meeting held here in April. As stated in the 2016 AFMC strategic plan, "Our people are AFMC's most precious resource." AFMC leadership's support and funding of the CHPS program has allowed the 66,000-person civilian workforce to have access to worksite wellness resources to monitor their health status and motivate lifestyle behavior change.

The meeting was held at the surgeon general's office of the command's headquarters, and it was the first time in CHPS' 10-year history that coordinators from all AFMC installations met as a group with the AFMC Health and Wellness team and Federal Occupational Health program managers. The focus of the meeting was to discuss future planning and program development.

Following opening remarks from Col. Janice Wallace, AFMC command surgeon, the health promoters discussed strategies on how to improve employee engagement in wellness activities, empower individuals for lifestyle behavior change and evaluate program success. With the support of AFMC installation commanders, CHPS has conducted more than 25 health awareness campaigns and wellness challenges to enhance the quality of life for the workforce over the past 10 years. Upcoming wellness program initiatives include: Fight the Bite to prevent mosquito-borne diseases such as the Zika and West Nile viruses, and Keeping your Cool when dealing with anger issues.

For more information regarding CHPS wellness activities, visit ***http://www.afmcwellness.com.***

AF demonstrates key rocket engine technologies for next generation launch systems

By Air Force Research Laboratory Propulsion Directorate

EDWARDS AIR FORCE BASE, Calif. (AFNS) – The U.S. Air Force Research Laboratory and contractor Aerojet Rocketdyne achieved a major milestone under the Hydrocarbon Boost (HCB) program, which is advancing domestic rocket engine technologies in support of next generation launch systems. The HCB program completed full power, full duration tests of the oxygen-rich staged combustion (ORSC) subscale preburner. Testing was conducted at the historic rocket Test Stand 2A at Edwards Air Force Base; the facility was first utilized to test the F-1 engine used to power Saturn V rockets in the Apollo program to reach the moon.

The sub-scale preburner test campaign accomplished the first demonstrations of several key rocket engine technologies, including the first use of Mondaloy 200 superalloy in a rocket engine environment and the first operation of a diluent type preburner. Demonstration of Mondaloy 200, which was co-developed by Aerojet Rocketdyne and the AFRL Materials Directorate, was a critical step to proving the unique combination of high-strength and burn resistance necessary for hardware survival in the harsh ORSC rocket environment.

"These tests are a significant milestone for our program, but also just the beginning of an effort to develop and transition the tools, components and knowledge needed for our customer and the U.S. rocket industry," said Dr. Shawn Phillips, the chief of the AFRL Rocket Propulsion Division.

The U.S. has a limited technology base in the high-performance ORSC rocket engine cycle. The United Launch Alliance Atlas V launch vehicle is powered by Russian RD-180 rocket engines, which were developed based on decades of ORSC research and development in the former Soviet Union. Tensions with Russia spurred limits on future use of the RD-180 engines for national security launches and triggered increased U.S. government investment in ORSC technology for industry to use to provide future launch services for national security space launch needs.

A key goal of the Hydrocarbon Boost Technology Demonstrator program is to mature the technology readiness of ORSC engine components to advance the U.S. rocket technology base. This is also a key goal of the Booster Propulsion Technology Maturation (BPTM) projects led by the Air Force Space and Missile Systems Center at Los Angeles Air Force Base.

"The DOD is absolutely committed to transitioning off the RD-180 as quickly as possible, while ensuring no impacts to national security. Programs such as BPTM are essential to achieving that objective while solidifying U.S. assured access to space and supporting the U.S. launch industry's viability in the global market," said Lt. Gen. Samuel Greaves, the SMC commander and Air Force program executive officer for Space.

Technology maturation and risk reduction efforts are part of a comprehensive Air Force plan to transition off of the RD-180 engine. One of the BPTM project areas is to advance technology readiness through critical rocket engine component design, integration and test. To this end, SMC augmented HCB program funding to accelerate development of the HCB full-scale preburner and enable near-term U.S. demonstrations that are critical to overcome key ORSC challenges. These critical ORSC challenges include combustion instability, oxygen compatibility of materials in severe high pressure and temperature environments, and complex preburner startup and shutdown transients. The improved knowledge base, test results, and lessons learned in the HCB program and other BPTM activities are shared with the entire U.S. rocket propulsion community.

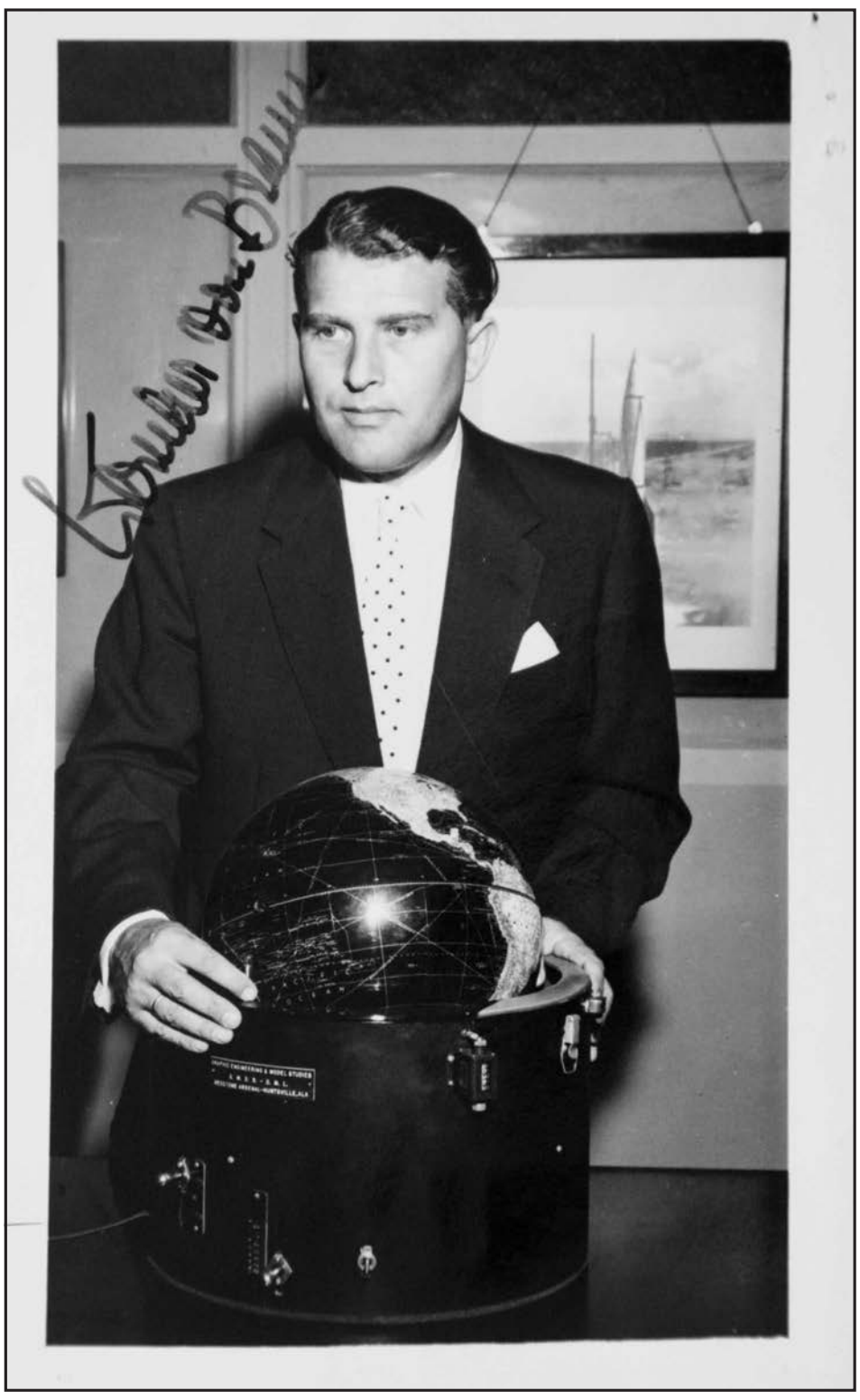
"An objective of this program is to help eliminate the United States' reliance on foreign rocket propulsion technology," commented Maj. Gen. Tom Masiello, the AFRL commander. "This is key to ensuring our national security, and the people of the Rocket Propulsion Division are making impressive strides in achieving our goal."

The highly instrumented HCB sub-scale preburner tests generated critical data for design and development of the full-scale preburner. Design and fabrication of the full-scale ORSC Hydrocarbon Boost preburner is underway. Preburner component level testing will be conducted at NASA Stennis Space Center prior to Hydrocarbon Boost integrated engine testing at AFRL in the 2020 timeframe. Successful program completion will demonstrate national goals for the Rocket Propulsion for the 21st Century program, which is co-chaired by the Office of the Secretary of Defense and NASA.

UT assistant professor donates space memorabilia to the UT Space Institute

By Barbara Birdsong
University of Tennessee Space Institute Public Relations

German A4/ V2 rocket injection valve from the combustion chamber. ***(Courtesy photo by Laura Horton)***



Autographed photo of Wernher von Braun in his Huntsville office in 1959. ***(Reproduced Courtesy photo by Laura Horton.)***

Dr. William Hartel, UT assistant professor in dentistry, recently donated his 45-years' worth of early space program memorabilia to the University of Tennessee Space Institute.

Hartel has been a fan of the manned space program since the days of the Gemini program. In fact he clipped his first new article about the space program in 1965, when he was just 6 years old, the year UTSI opened its doors. He considers himself extremely fortunate for having met all 12 astronauts who walked on the moon, completing his quest by meeting Neil Armstrong by accident in 2006.

Among the many rare items in Hartel's collection are signed photos of every astronaut from Mercury, Gemini and Apollo missions as well as a page from the Apollo 8 log book which orbited the moon 10 times in 1968 and a lunar map carried aboard the Apollo 17 to the surface of the moon in 1972.

Hartel's collection includes space artwork as well as memorabilia such as Paul Calle's pencil drawings of the Apollo 11 astronauts suiting up on the morning of the launch of their historic mission each signed by the artist and the astronaut, two of astronaut Michael Collins original watercolors, large prints signed by artist/moon walker Alan Bean, and a 1950's signed painting by Chesley Bonestell.

The oldest item in the donation is a handwritten document by early space scientist, Konstantin Tsiolkovsy, considered the "father of space exploration," written in 1927. Other older items include a photo signed by Wernher von Braun in 1959, and a letter from space pioneer Sergi Korolov, the Soviet's "chief designer."

"We plan to connect Hartel's space collection with the STEM initiative at UTSI and in Tennessee, Statewide," said Carole Thomas, UTSI STEM Program Manager. "We hope to expand this special collection with more than 50 rare signed astronaut books Hartel collected over 30 years."

Hartel convinced his friend Apollo 8 astronaut Bill Anders to autograph a photo of himself holding a toothbrush on his moon mission with "Welcome to the UT Space Collection." Anders specifically requested that it be hung upside down to suggest weightless.

This collection of space artifacts will be housed in a special area of the Space Institute and plans are to open it to the public during normal business hours. We hope this collection of space artifacts will provide students with a greater sense of space exploration and adventure by being able to see these items.

Hartel's donation bestows upon the university, and indeed Tullahoma and the surrounding area, the rare distinction of owning a little bit of space history to be enjoyed by all.

"I hope my donation helps connect current and future UTSI staff and faculty with the early space program to demonstrate the continuum of exploration." "UTSI has graduated nine astronauts who have flown in space," said Hartel. "It is a good bet that among the first crews heading back to the moon or to Mars there will be a UTSI grad. I hope my collection inspires future students to attend UTSI, study hard and make that crew!"

Hartel joined the faculty of the UT Health Science Center in September 2015 after returning from Iraq. He joined the U.S. Army Reserves in 2011 at age 50, deployed to Afghanistan in 2013 where he received numerous decorations. In 2014 he completed a second overseas tour in Kuwait.

Among his many accomplishments, he has published a number of articles on a wide range of topics, from the Beatles to dentistry in space, as well as authoring a best-selling book on Chicago's Wrigley Field.

Eagle population increases at Arnold

Two 4-year-old bald eagles were seen on Arnold Air Force Base property recently, increasing the number of reported eagles to four at the base. Shown here are the eagles resting in the tree canopy April 4. The age of these eagles is determined by the brown plumage remaining behind the eye and in the tail. A 5-year-old, adult eagle will have completely white feathers on the head and tail. *(Courtesy photo/John Lamb)*

By Raquel March
ATA Public Affairs

In 2009, two bald eagles were reported, for the first time, nesting within the Arnold Air Force Base Wildlife Resource Area, and recently two more eagles were spotted on Arnold property.

The new pair of eagles are not yet mature and are still perfecting their skills at making a nest which can measure anywhere from 5- to 8-feet across.

"This pair of eagles is 4 years old," said John Lamb, a wildlife and plant biologist with URS Federal Services at AEDC. "Their age is based on plumage. They still have some brown feathers behind the eye and in the tail. A 5-year-old, full-grown, adult eagle will have completely white feathers on the head and tail.

"They built a rather shabby first attempt at a nest, but aren't actually using it."

Bald eagles may be spotted in many prime locations in Tennessee and are more easily seen during the winter months when the leaves fall from the trees and when the birds are wintering from late-October to mid-February. The eagles that nest in northern regions and are wintering in Tennessee return to southern Canada and the Great Lakes area in April. Adults that nest in Tennessee, remain in state the entire year.

According to a 2013 Tennessee Wildlife Resources Agency report, approximately 300 to 500 eagles winter in Tennessee and the highest numbers are usually at Reelfoot, Dale Hollow, Kentucky, Chickamauga, Watts Bar and Pickwick Lakes.

Due to the well visited nest location of the two eagles first spotted in 2009 at Arnold, Lamb stated that the birds may have moved their nesting area. These eagles haven't been seen recently.

Lamb said if someone sees a bald eagle on base they should call 454-5378 or the Arnold AFB Natural Resources office at 454-5466. If an eagle is seen off-base, they may contact their county TWRA.

When surveying the eagles, TWRA agents stay out of sight of eagle nests, except for routine farming. Disturbing the nesting area may cause the eagles to abandon their nests.

This bald eagle was seen for the first time nesting at Arnold AFB in 2009. A bald eagle nest can measure 5- to 8-feet across. *(U.S. Air Force photo/David Housch)*

It is reported in the Arnold Integrated Natural Resources Management Plan that monitoring eagles at Arnold is done annually as part of the U.S. Geological Survey Mid-winter Bald Eagle Survey. The monitoring locations are selected based on the area of shoreline visibility. Typically bald eagles choose a nesting site that has large trees with dead limbs for better aerial access to accommodate their wide wingspan and on high ground close to lakes or rivers.

A male, bald eagle may weigh 6-9 pounds, whereas a female may weigh 20 to 30 percent more. Their wingspan can be 6-8 feet.

For more information about eagles, visit the TWRA Watchable Wildlife website at ***www.tnwatchablewildlife.org*.**

Eglin activates F-35 Partner Support Complex

By 1st Lt. Amanda Farr
53rd Wing Public Affairs

EGLIN AIR FORCE BASE, Fla. (AFNS) – The 53rd Wing activated on May 11 the F-35 Partner Support Complex, a U.S.-owned facility here that handles F-35 Lightning II testing.

Robert Kraus assumed the new position as the complex's director, making it the first civilian-led unit in the wing. Kraus, a retired lieutenant colonel, served as the 68th Electronic Warfare Squadron commander and 53rd Electronic Warfare Group deputy commander at Eglin Air Force Base prior to this new position.

The F-35 PSC is charged with providing mission data, intelligence support, lab facilities and training to the eight partner countries purchasing the fifth-generation aircraft.

"The growth of the PSC will relieve that pressure, as well as ensure our coalition partners are ready to participate in any future operations," Kraus said.

The partner countries include: Australia, Canada, Denmark, Italy, Norway, the Netherlands, the United Kingdom and Turkey. These countries provided critical design input and funding during the early stages of the F-35 program, which differs from foreign military sales customers.

"The PSC will directly support the partners, who currently have no indigenous capability to create mission data for the F-35," Kraus said.

The complex will interact with mission data programmers and data analysts from the partner nations. According to Kraus, one of the key projects for the unit is to support the partners in the creation of two separate hardware in the loop testing facilities – only one currently exists.

The F-35 PSC started as a small team within the 513th Electronic Warfare Squadron at Eglin AFB, which provides F-35 mission data files to the Air Force, Navy and Marine Corps. The team staffs 24 civilian employees and contractors, with plans to grow to about 100 personnel. The new unit will report to the 53rd EWG.

While the mission of the complex has been ongoing for nearly five years, Kraus sees the formalization of the unit as a step forward.

"The formal activation of the unit will give me a greater ability to support the partners in their efforts," he said. "(I can now) elevate the partner support functions to an equal level with U.S. squadrons, as opposed to a subordinate role."

Plans are in the works for two separate buildings to hold the new unit and partner nation personnel. This includes the Australia/Canada/United Kingdom Reprogramming Laboratory building and the Norway/Italy Reprogramming Laboratory building. Additional support will be provided to Denmark, the Netherlands and Turkey.

Robert Kraus, the new F-35 Partner Support Complex director, unfurls the unit's guidon during an activation ceremony May 11 at Eglin Air Force Base, Fla. The complex will provide mission data, intelligence support, lab facilities and training to the eight partner countries purchasing F-35 Lightning II aircraft. *(U.S. Air Force photo/1st Lt. Amanda Farr)*

Raptors complete successful European deployment

A four-ship formation consisting of a U.S. Air Force F-15E Strike Eagle, an F-15 Eagle, an F-22A Raptor, and a Royal Air Force Typhoon fly together during a training sortie April 26. Airmen and aircraft from the 95th Fighter Squadron deployed from Tyndall Air Force Base, Fla., and conducted air training exercises with other U.S. and RAF aircraft during a course of several weeks. *(Courtesy photo/Jim Haseltine)*

An F-22 Raptor from the 95th Fighter Squadron lands at Royal Air Force Lakenheath, England, April 12. The aircraft arrival marked the second time the U.S. European Command has hosted a deployment of F-22 aircraft in the EUCOM area of responsibility. *(U.S. Air Force photo/Airman 1st Class Erin R. Babis)*

By Staff Sgt. Stephanie Longoria
48th Fighter Wing Public Affairs Office

ROYAL AIR FORCE LAKENHEATH, England (AFNS) – Twelve F-22 Raptors from the 95th Fighter Squadron and about 220 Airmen from Tyndall Air Force Base, Florida, completed on May 8 a month-long deployment to Royal Air Force Lakenheath.

This historic deployment was the largest Raptor deployment in Europe to date and is part of their Global Response Force training.

"The F-22 deployment to RAF Lakenheath makes perfect sense," said Col. Robert Novotny, the 48th Fighter Wing commander. "Lakenheath is the home (to) combat fighter aviation in Europe; it's the place where we work with our NATO allies to sharpen our tactical skills and reaffirm to our commitment to the alliance."

During the deployment, the F-22s participated in exercise Iron Hand 16-3, conducted air training with all three RAF Lakenheath fighter squadrons and RAF Typhoons. The Raptors also forward deployed to Romania and Lithuania, both NATO countries, and participated in the commemoration of the 100th anniversary of the Lafayette Escadrille in Paris.

"Deploying Raptors here and integrating with our efforts in these areas has been a phenomenal success," Novotny said. "During their deployment, we were able to integrate seamlessly into some of the largest fighter exercises in Europe."

According to 1st Lt. Jolly Foss, a 95th FS Raptor pilot, training with the Typhoons was one of the main objectives for deploying to the U.K.

"There's different capabilities here, different airspace that we don't have access to back home and being able to integrate with the three F-15 Eagle squadrons and with the Typhoons has allowed us to go through our exercise objectives," Foss said.

See **RAPTORS**, page 11

RAPTORS *from page 10*

Foss explained the different type of training sorties while deployed to the U.K.

"We had some long sorties, where you send anywhere between 10-12 jets on the blue side against 10 aircraft on the red side; tactical sorties, where we look into destroying targets on the ground; and strictly defensive counter air, which is keeping the enemy from approaching that line," Foss continued.

The F-22 is the Air Force's newest fully operational fifth-generation fighter aircraft. Its combination of stealth, maneuverability, integrated avionics and multirole capability enhances its warfighting capabilities.

"Sending the Raptors into Low Fly Area 7 (Mach Loop in Wales) was an opportunity for their low-altitude qualified pilots to see firsthand the amazing training opportunities we have in the United Kingdom. The training ranges and low flying airspace here are some of the best in the world," Novotny said.

The F-22s forward deployed to Eastern Europe to maximize training opportunities and demonstrate the United States' commitment to NATO allies.

"The intent of the exercise was to show the capabilities of 'rapid Raptors' by taking two F-22s to Lithuania and Romania, along with our support assets on a tanker, and being able to go anywhere in the world with very little coordination and notice," Foss said.

According to Novotny, many lessons were learned that will ensure faster, simple and if necessary more lethal deployments in the future.