

## In this week's Kukini



■ High-tech sensors could lead to revolutionary wing designs in future aircraft **A5**



■ Deployed Airmen help fledgling Iraqi Air Force pass historic milestone **A7**

## News Notes

**Kuntz Gate construction** — During construction for a bollard installation that began last week, Kuntz Gate will have a single lane open for incoming traffic. The right lane (lane to search pit) will be closed. Access to the search pit will be available and marked after the construction zone. Please heed all construction signs. Construction is scheduled to continue for the next four weeks. Outbound lane traffic will not be affected. For more information, call Master Sgt. Daniel Clark at 448-2803.

**Skate Park Hangar closure notice** — The 15th Services Skatepark Hangar is closed until further notice due to repairs. For more information, call the Makai Recreation Center at 449-3354.

**Use of dormitory pavilions** — Hickam dormitory pavilions must be reserved for official unit functions by letter to the dorm management office. For more information, call the Consolidated Dormitory Management Office at 448-2007.

**Sewer line repairs** — Crews will be working on the sewer line at 7th Street and Worthington Avenue through Sept. 12 from 7:30 a.m. to 3:30 p.m. Expect delays or use an alternate route and parking location. For more information, call David Arakawa at 448-2879.

**Woodring Law Center closure** — The Hickam Legal Office will be closed today from noon to 4:30 p.m. for an official office function. The center will resume normal duty hours beginning Monday from 7:30 a.m. to 4:30 p.m. For more information, call the front desk at 449-1737.

**Volunteers needed** — Airman's Attic needs volunteers tomorrow from 8:30 to 11 a.m. to help organize and sort donated items and provide general cleaning. For more information, call 449-2077 or send an e-mail to Tech. Sgt. Mark Schwartze at mark.schwartze@hickam.af.mil.

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# AFA chairman tours Hickam

## Discusses association's role as air power advocate

By Jeff Nicolay  
Hickam Kukini editor

Once in a while — maybe on one of those bad days we all have from time to time — every Airman probably wishes he or she could be like Robert E. Largent.

"I can't be fired — the secretary of defense can't go, 'Bob Largent, you're fired,'" said the outspoken head of the Air Force Association. "Our association is non-profit ... we're independent. So I can say things the uniformed Air Force cannot say ... and I can say it in public."

Mr. Largent made that clear during an interview with the Kukini last week at Headquarters, Pacific Air Forces, where he discussed being a former-Airman-

turned-civilian Air-Force advocate in his role as AFA chairman. Central to that role, he said, is telling the Air Force story.

"AFA's mission since 1946 — which was a year before there even was an Air Force — has been to educate the public about the value of aerospace power, to advocate the use that aerospace power as part of a strong national defense, and to support the Air Force and the Air Force family," he said. "So our role in the organization — which numbers 125,000 strong nationwide — is to get the message ... the Air Force message ... to the public."

The chairman added that the job of his organization has



Photo by Vanessa Perez

Bob Largent, chairman of the board of the Air Force Association, addressed senior Hickam leaders at the 15AW headquarters conference room last week Thursday.

See AFA, A4

# Colonel Debra Doty takes over

## 15th Medical Group command

By Jeff Nicolay  
Hickam Kukini editor

Col. Debra L. Doty took command of the 15th Medical Group in a change-of-command ceremony held Tuesday in front of the Med Group building adjacent to Freedom Tower Mall.

She takes over the command from Col. David Hocking, who is PCSing to the 48th Fighter Wing, RAF Lakenheath, England.



Col. Debra L. Doty



Photo by Oscar Hernandez

Col. Debra L. Doty (right), new 15th Medical Group commander, steps forward to accept the guidon from Col. Giovanni K. Tuck, 15th Airlift Wing commander, as Chief Master Sgt. Rudy Lopez, 15 MDG chief, stands at attention during Tuesday's change of command ceremony.

Prior to coming to Hickam, Colonel Doty served as chief nurse with the 88th Medical Group, Wright-Patterson AFB, Ohio.

Prior to that assignment, she was the Medical Operations Squadron commander at Randolph Air Force Base, Texas. She ensured full spectrum clinical care managing 112,000 appointments annually for a population of 48,000 beneficiaries and readiness for 4,700 warfighters.

As the new 15 MDG/CC, in addition to commanding the group, Colonel Doty will also oversee the following units: the 15th Aeromedical-Dental Squadron, the 15th Medical Operations Squadron and the 15th Medical Support Squadron.



U.S. Air Force photo by Senior Airman Julianne Showalter

**Senior Airman Michael Blair, a 332nd Expeditionary Civil Engineer Squadron emergency management equipment technician at Joint Base Balad, Iraq, pieces together a 12-cubic-foot box used to hold instruments needed for responding to hazardous material situations. His idea was to use one response kit instead of three or four which has cut response time by more than 75 percent.**

# Hickam warriors rise to seize the day



Photo by Staff Sgt. Erin Smith

Airmen from Headquarters, Pacific Air Forces, start off on last Friday's Warrior Run. The monthly event, which kicked off at a later-than-usual 7:30 a.m., saw 917 Team Hickam members and sister-service representatives take to the streets ringing Freedom Tower Mall. The next Warrior Run is scheduled for Aug. 1.

# Hot idea speeds hazmat response

By Staff Sgt. Don Branum  
332nd Air Expeditionary Wing Public Affairs

JOINT BASE BALAD, Iraq (AFP) — One Airman's initiative has cut the response times for hazardous material teams from hours to minutes, and his supervisors want civil engineer units throughout the Air Force to adopt the idea.

Senior Airman Michael Blair, an emergency management equipment technician with the 332nd Expeditionary Civil Engineer Squadron's Emergency Management Flight, packed the flight's re-

See HAZMAT, A4

# ACTION LINE

## Abandoned vehicle

**Comment:** I have an abandoned vehicle that has been left on the street in front of my Base house and no one seems willing to help me get it removed.

The vehicle in question is located near the corner of Kokio and Kopiko streets and is a gray Acura Integra, license plate FGW 625, that currently has expired tags of February 2007. The vehicle was left during the third week of February 2008.

We called the Law Enforcement Desk and within 30 minutes we had two individuals from Security Forces ticketing the vehicle. We thought this was a great response time but needless to say this was the last time we received any response to our problem.

I called Hickam Community Housing in mid-March and was told to contact Security Forces. Since the Law Enforcement Desk did not solve the issue, we went to the Security Forces Investigations Unit and were told that they would look into the situation, but we were also told the vehicle removal would take time because of the steps necessary to locate the owner etc.

It has been a safety issue and an eyesore in our neighborhood for three months. Could you please help me in getting this vehicle removed from our neighborhood? Thank you for your time and please contact me with any questions that you might have regarding this issue.

**Response:** Thank you for the observation. I discussed this issue with the Security Forces commander and he relayed that the paperwork for this vehicle was misrouted, which caused the initial delay. After the initial ticketing of the vehicle, follow-up action should have been taken within a 72-hour time period, identifying the vehicle as being abandoned.

Unfortunately, this didn't happen until several weeks later and we apologize for that oversight. That said, I am happy to report that the vehicle in question has been towed.

Be on the lookout for a more comprehensive look at Security Forces procedures with respect to abandoned vehicles in an upcoming issue of the Kukini.

If you have additional questions or concerns, please call Security Forces Operations at 449-1006.

*The Action Line is your direct link to me so we can work as a team to make Hickam a better community. I urge you to use the normal chain of command first. If you have done this and are still not satisfied, give my commander's Action Line a call. If you would like me to get back to you, leave your name and number, state your issue, tell me who you have talked to and why you were not satisfied with their response. I'll work your issue and respond verbally or in writing. The Action Line number is 449-2996. Messages may also be sent by e-mail to 15aw.pal@hickam.af.mil.*

## Diamond Tips

**Men's sideburns** – Unless men have a shaving waiver, sideburns will be neatly trimmed and tapered; be straight and of even width (not flared); end in a clean-shaven horizontal line; and not extend below the lowest part of the exterior ear opening.

Questions? Contact your First Sergeant



Deadline for article submission is end of day Monday for Friday's issue. Copy must be typed, double-spaced 12-point type, 300-500 words in length, and e-mailed to hickam.kukini@hickam.af.mil.

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**Kukini:** Meaning swift and valued messenger, the Kukini in ancient times took news from one Hawaiian leader to another.

# Enemies are watching ... are you?

By Senior Master Sgt. Bruce Richey  
15th Airlift Wing Plans and Programs superintendent

When preparing for your vacation or TDY, have you ever had your mail stopped? Asked the neighbor to pick up your newspaper? Left a car in the driveway? Hooked a radio, porch light, or interior light to a timer? If you have, you've applied OPSEC measures. You have taken measures to eliminate indicators (puzzle pieces) that the adversary (burglars) would need to make a sound decision to target your home.

According to the Department of Business, Economic Development and Tourism, between January and May of this year, 1,788,381 tourists have traveled to Oahu — Hickam's island home. With RIMPAC 2008 in full swing, Oahu, including Hickam and Pearl Harbor, has become host to more than 20,000 participants from 10 different nations. Even closer to home, the 15th Airlift Wing Protocol office has processed 360 foreign distinguished visitors between January and July.

That's a lot of eyes and ears visiting our island, potentially witnessing the vast amount of military operations conducted here on a daily basis. While not every person coming to Oahu is collecting information on military operations, a look at the sheer volume of visitors demonstrates the absolute necessity for OPSEC application in order to reduce the threat to our home.

Intelligence collection and analysis is very much like assembling a picture puzzle. Intelligence collectors understand the effectiveness of obtaining small bits and pieces of information (or "pieces" of a puzzle)

from many sources and assembling them to form the overall picture. They use numerous methods and sources to accomplish this collection from high tech electronic methods like monitoring cell phones, radios, and e-mail conversations to simple visual observation. It's also no surprise that they may search our trash receptacles for pieces of personal information, travel orders, and similar pieces to the puzzle.

Senior Master Sgt. Bruce Richey

What then is the purpose of OPSEC? Properly applied OPSEC seeks to reduce the vulnerability of Air Force missions to the effects of successful adversary collection and exploitation of critical information. OPSEC applies to activities that prepare, sustain, or employ forces during all phases of operations. By definition, it is a process of identifying, analyzing, and controlling critical information indicating friendly actions associated with military operations and other critical activities.

To accomplish this, OPSEC users must identify those specific indications that can be observed, collected, analyzed, and interpreted by adversary intelligence systems to derive critical information in time to be useful to adversaries. Most importantly, measures that eliminate or reduce to an acceptable level the vulnerabilities of friendly actions to adversary exploitation must be selected and executed.

OPSEC is accomplished using a five-step process:

1) Identify Critical Information. This is the sensitive but unclassified information that when pieced together can create a clas-

sified picture. What are you trying to protect?

2) Analyze threats. Who is our adversary and what are their tactics and capabilities?

3) Analyze vulnerabilities. How can the adversary gain access to our critical information?

4) Assess risk. When determining whether to release information, weigh the damage potential against the potential for an improvement to mission effectiveness.

5) Apply OPSEC measures. Take steps to properly secure critical information.

The three laws of OPSEC:

1. If you don't know the threat, how do you know what to protect?

2. If you don't know what to protect, how do you know you are protecting it?

3. If you are not protecting it ... the adversary wins!

Always exercise caution when discussing work, pay close attention to where you are and who may be listening, take care when talking on the phone or using computer systems, and only discuss classified information in authorized spaces with those having both proper security clearances and "the need to know."

Remember, even a seemingly benign piece of information, whether it be verbal or written, can be used by potential adversaries to target our people. The one piece of harmless information you unwittingly give away could be the piece that "completes the puzzle."

If you have an incident to report, please contact 15 SFS at 449-COPS or AFOSI at 449-0259. For more information about OPSEC, contact your unit OPSEC monitor or Tech. Sgt. Casey Carden, 15th Airlift Wing Plans and Programs office, at 449-0011.

# If you want to grow, get out of the box

By Staff Sgt. Mareshah Haynes  
332nd Air Expeditionary Wing Public Affairs Office

As my tour here at Joint Base Balad comes to an end, I've looked over the last six months and thought of all the things I've had an opportunity to do and people I've met. I've done things I said I would never do, like fly in a helicopter, and met people I've never expected to meet, like the vice president of the United States.

As excited as I am to go back home and see my family, leaving will be a bittersweet experience.

I will be the first to admit that I wasn't excited about deploying when I was first tasked. If I'm going to be 100-percent honest, I was downright disappointed. I had other plans for my Air Force career at the time and going to Iraq wasn't part of them. Now I realize what an opportunity I had coming here to Iraq, especially to the 332nd Air Expeditionary Wing.

As the granddaughter of one of the original Tuskegee Airmen, being a part of the 332 AEW was very special for me. I was able to continue a family tradition, as well as an Air Force tradition. How many people can say that? I learned more about the original Tuskegee Airmen, who were members of the 332nd Fighter Wing, and even

my grandfather, than I would have by staying at my home station.

I've gained a greater respect for my fellow Airmen and the jobs they do, as well as the other servicemembers who are assigned to Balad with me. I've been able to see my own job in a whole new light as well. By being a journalist in a deployed location, I've had the chance to load a dump truck with a front loader. I've flown on medical evacuation missions with Army medics to pick up critically injured patients. Every time I go out with a different unit and see how hard they work and the sweat equity they put into it, it makes me that much more excited to tell the world about their successes here in Iraq.

That's something I don't think I could've gotten at my home station. There's just something about all of us being outside of our comfort zone, away from our families, doing the mission that we've all been trained for, and seeing the results.

When I go to the Air Force Theater Hospital here and I see the looks of appreciation on the faces of the Iraqi patients being treated, it makes me proud to be associated with the Airmen who work in the hospital and maintain a 98-percent survivability rate. When I see injured U.S. servicemembers in the hospital still eager to get back to their units so

they can fight along with the rest of their team, it makes me want to fight with my team, too.

You can search the Internet and watch the news and as many movies as you want to on the subject, but until you have seen it for yourself, I don't think you can ever fully appreciate the progress the coalition forces are making in this country.

Sure it's hot and dusty here and I've seen bugs that look like they crawled straight out of the Mesozoic era. I've also had some of the best experiences of my Air Force career and seen military members in action who blow my mind. I wouldn't trade these last six months for anything.

I definitely will appreciate sleeping in my own bed again and not wearing my uniform or physical training gear everywhere I go. I can't wait to have a fast-food cheeseburger and watch real commercials again, but I will still miss Balad.

I'll never forget my time here and I'm sure I'll be back in Iraq either here or at another base. Since I've been here, I think I've become a better journalist, a better noncommissioned officer, a better Airman and a better person. I've learned lessons in leadership, "followership," humanity and compassion that I don't think I wouldn't have learned if I hadn't stepped outside of my box and into the sandbox.

# Let's excel by getting back to basics

By Gen. Stephen R. Lorenz  
Commander, Air Education and Training Command

These are challenging times. If you're keeping up with the news, you're probably as frustrated as I am when you see editorials with titles like, "Clean up the Air Force." While we have important issues such as nuclear accountability that must be addressed, you and I both know that the vast majority of the Air Force does not need "cleaning up." As Secretary of Defense Robert Gates has said, "I have every confidence in you, and in the Air Force that has served our country so well."

Nevertheless, when faced with these negative perceptions, our best answer is to get back to basics. Every good team faces bad news from time to time. The excellent teams get through adversity by focusing on what made them excellent to begin with. This is what we must do now.

For the U.S. Air Force, our basics have been, and must always be, our core values: integrity, service and excellence. These values have stood the test of time. They sustained our predecessors when they faced

difficulty, and they will do the same for us today.

Integrity is our number-one value, which is why we say "Integrity First." When used to describe a building, the word integrity implies strength. If a building has integrity, it can weather a storm and remain strong. The Air Force is built upon the integrity of its people — you and me. If our collective integrity is strong, then the Air Force will be able to weather any storm. Unfortunately, the opposite is true as well.

I believe the key to integrity is transparency. Our actions should be transparent to outsiders. While they may not always agree with our decisions, they will see that we are making an honest effort to do what is right. Everything we do in serving the nation should be done as if we were being observed by the American people. If we act in this way, integrity will not be a problem.

We are all public servants, and this requires sacrifice. In short, it requires us to put "Service Before Self." We exhibit this core value when we leave our families for deployments, when we put ourselves in harm's way, and even when we work the extra hour to make sure the job is done right.

Service Before Self does not mean service in spite of self, however. We all have times when our personal lives, especially our families, take priority. That is when we as the Air Force family must step up and cover for each other. When you take on an additional task to help a fellow Airman who is dealing with personal issues, you make the Air Force stronger. And one day, someone will do the same for you.

We became the world's leading Air Force by exhibiting "Excellence In All We Do," and we must keep striving for excellence today. This means that we must aggressively and constantly seek improvement. The Airmen who came before us would not settle for the status quo. They always sought better ways of doing business — better processes, better equipment, better training. We must do the same.

No one says it better than our acting Secretary of the Air Force, Michael Donley. "There is no quicker route to recovery than the power of tens of thousands of Airmen and civilians rededicating themselves to the high standards of excellence that have always been the hallmark of the world's best Air Force."

# System examines 'health' of aircraft

By Holly Jordan  
Air Vehicles Directorate

WRIGHT-PATTERSON AIR FORCE BASE, Ohio (AFP) — Military aircraft must be safe, reliable, and ready at a moment's notice to complete their mission. Unexpected maintenance, and even scheduled maintenance checks, can keep an aircraft out of service when needed most.

That's where Integrated Systems Health Management, or ISHM, comes in.

ISHM is a system that collects data from various areas of an aircraft and transmits real-time information about the condition of the vehicle back to the maintenance depot.

Mark Derriso, Air Force Research Laboratory's ISHM lead, compares the typical aircraft to people with congenital insensitivity to pain.

"What we are doing with ISHM is trying to determine the condition of the entire vehicle," Mr. Derriso said. "We want the vehicle to tell us how

it feels. Then we can decide whether it is safe to perform the next mission or send it to be repaired."

The potential safety benefits of ISHM came into focus during the Missouri Air National Guard mishap in November 2007. In the training exercise a forward fuselage of an F-15 broke apart from the rest of the vehicle, forcing the pilot to eject. The aircraft was lost. The pilot survived, but the entire fleet of Air Force F-15 A-D aircraft was subsequently grounded until officials completed emergency inspections.

The cause of the F-15 incident was deemed to be fatigue cracks in the upper cockpit region. According to Mr. Derriso, this is the type of structural damage AFRL engineers believe can be detected through ISHM.

While mission safety is the most critical element of ISHM, it also provides benefits in terms of cost and aircraft availability. Continuous real-time monitoring of the aircraft pre-

vents the vehicle from having to undergo unnecessary pre-scheduled maintenance, which can be costly and cause the aircraft to be out of service for long periods of time.

Mr. Derriso said ISHM also helps maintenance crews continuously monitor the status of aircraft components, allowing them to have parts in stock beforehand, ready for installation when the aircraft is scheduled for maintenance.

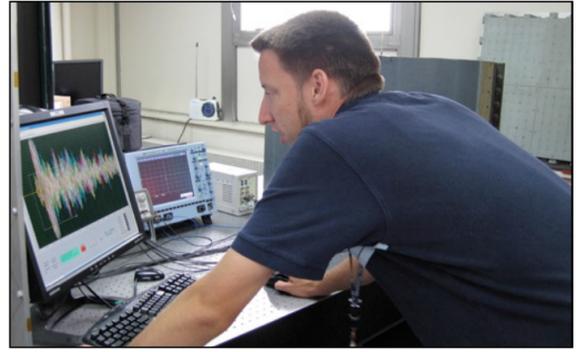
Officials say ISHM can be a benefit to both current and future military aircraft. ISHM can also help by eliminating routine pre-flight inspections.

ISHM is also benefiting commercial aircraft as well. According to Mr. Derriso, commercial airframe manufacturers are already employing elements of ISHM to aircraft such as the Boeing 777 and the new 787 Dreamliner. Recent groundings of commercial aircraft such as American Airlines' MD-80 fleet and Southwest Airlines' Boeing 737s to inspect for possible wiring and structural

problems emphasizes the need for ISHM on commercial applications.

AFRL researchers are currently examining ISHM systems at the subsystems level to try to examine and improve ways the components can work together to more effectively gather data. Researchers are currently monitoring data from piezoelectric sensors installed on an F-16 test vehicle at Luke Air Force Base, Ariz. Mr.

Derriso says that by monitoring this data, researchers are not only able to determine the quality of the damage detection techniques, but also the durability of the sensors themselves.



U.S. Air Force photo

**Air Force Research Laboratory engineer Kevin Brown analyzes signals from a piezoelectric sensor array attached to a Global Hawk test article that has been subjected to impact loads.**

## AFA, From A1

become more challenging in the wake of the Global War on Terror.

"There is, in my estimation, a lack of understanding of the value the Air Force brings to the fight," he said. "Because the typical headline is 'Two Soldiers killed by IED' without any context of, say, 'the Air Force flew 345 missions today in air support, in air refueling — all in direct support of the Global War on Terror. And there are many Airmen serving in traditional Army roles ... in an in-lieu-of capacity."

"We need to get the message out that our Air Force Airmen of all ranks and components — active-duty, Guard and Reserve — are in fact engaged in the Global War on Terror and are doing the work

that they are supposed to do — and doing it with distinction."

In its role as an air power advocate, Mr. Largent noted that AFA's senior leadership has as much access to the secretary and the chief of staff as anyone in the active-duty Air Force.

"AFA president Mike Dunn and I personally talk to the chief, the secretary and the chief master sergeant of the Air Force on a regular basis," he said. "And we don't hesitate to tackle the issues."

One of the most pressing issues is the decline of Air Force manpower.

"We cautioned the Air Force to go slow — that it was making cuts that it couldn't live with," he said. "So what happened in January of this year? Both the secretary and the

chief acknowledged that the 40,000-plus cuts [in manpower] were not sustainable and the Air Force would have to stop at a [total manpower] number much higher than they originally envisioned."

Other AFA efforts focused on the F-22 and C-130J programs.

"We advocated for the F-22 when the program was cancelled two years ago," he said. "We advocated for the C-130J when the Administration wanted to close the production line in Marietta, Georgia. You could not afford to close down that production line and lose that industrial base capability."

Mr. Largent went on to explain that AFA members went on the offensive and convinced Congress and the administration to maintain

F-22 production and keep the C130J line open.

"We have the clout to do that type of thing and we're happy to do it," he said.

When asked about current controversy over the Air Force's next-generation tanker fleet, Mr. Largent demurred, noting that association members are not acquisition specialists. He did, however, put into perspective the critical importance of that issue.

"What we do want to emphasize — and we did that with the administration just last week — is [the next-generation tanker is] the U.S. military's number-one priority on a weapons-system acquisition across any service," he said. "You can't move an Army division to Iraq without airlift; you can't move airlift

without tankers."

On a related note, the AFA chairman pointed out that the Air Force is flying 50-plus-year-old tankers — aircraft that are older than B-52s in a lot of cases.

Closer to home, Mr. Largent discussed Hickam AFB and its place in the big picture of the Global War on Terror and national security, noting that he feels there is a very real understanding in the uniformed and civilian Air Force and in pro-military circles that, at all levels, Team Hickam is actively engaged in the Global War on Terror. He pointed out that much of the public and some in the Air Force think being assigned to Hickam — smack dab in the middle of a tropical paradise — you won't have to go to war.

Fortunately, Mr. Largent knows better, and isn't afraid to set the record straight.

"The fact is, there are, at any given time, something like 150 folks from the various organizations here that are deployed to the AOR," he said. "I met two folks last night who had just returned [from southwest Asia] less than three weeks ago and they're leaving again in just a few months. And these are Airmen from all specialties — housing, maintenance, logistics ... I want Airmen to know that their work is vital to winning the Global War on Terror — not in a support role, but in an active, engaged role. From an airlift standpoint especially, the work Hickam Airmen do is much appreciated."

# Sensor technology could revolutionize wing design

EDWARDS AIR FORCE BASE, Calif. (AFNEWS) — NASA researchers are evaluating an advanced, fiber optic-based sensing technology that could aid development of active control of wing shape. Controlling a wing's shape in flight would allow it to take advantage of aerodynamics and improve overall aircraft efficiency.

The Fiber Optic Wing Shape Sensor system measures and displays the shape of the aircraft's wings in flight. The system also has potential for improving aircraft safety when the technology is used to monitor the aircraft structure.

Flight tests on NASA's Ikhana, a modified Predator B unmanned aircraft adapted for civilian research, are under way at NASA's Dryden Flight Research Center here. The effort represents one of the first comprehensive flight validations of fiber optic sensor technology.

"Generations of aircraft and spacecraft could benefit from work with the new sensors if the sensors perform in the sky as they have in the laboratory," said Lance Richards, Dryden's Advanced Structures and Measurement Group lead.

The weight reduction that fiber optic sensors would make possible could reduce operating costs and improve fuel efficiency. The development also opens up new opportunities and applications that would not be achievable with conventional technology. For example, the new sensors could enable adaptive wing-shape control.

"Active wing-shape control represents the gleam in the eye of every aerodynamicist," Mr.



NASA photo by Jim Ross

**NASA's Ikhana, a modified Predator B unmanned aircraft adapted for civilian research, is being used to test advanced, fiber optic-based sensing technology that could aid development of active control of wing shape.**

Richards said. "If the shape of the wing can be changed in flight, then the efficiency and performance of the aircraft can be improved, from takeoff and landing to cruising and maneuvering."

Six hair-like fibers located on the top surface of Ikhana's wings provide more than 2,000 strain measurements in real time. With a combined weight of less than two pounds, the fibers are so small that they have no significant effects on aerodynamics. The sensors eventually could be embedded within composite wings in future aircraft.

To validate the new sensors' accuracy, the research team is comparing results obtained with the fiber optic wing shape sensors against those of 16 traditional strain gauges co-located on the wing alongside the new sensors.

"The sensors on Ikhana are imperceptibly small because they're located on fibers

approximately the diameter of a human hair," Mr. Richards explained. "You can get the information you need from the thousands of sensors on a few fibers without the weight and complexity of conventional sensors. Strain gauges, for example, require three copper lead wires for every sensor."

When using the fiber optic sensors, researchers do not require analytical models for determining strain and other measurements on the aircraft because data derived with the sensors include all of the actual measurements being sought.

Another safety-related benefit of the lightweight fiber optic sensors is that thousands of sensors can be left on the aircraft during its lifetime, gathering data on structural health and performance. By knowing the stress levels at thousands of locations on the aircraft, designers can more optimally design structures and reduce weight while maintaining safe-

ty, Mr. Richards said. The net result could be a reduction in fuel costs and an increase in range.

Further, intelligent flight control software technology now being developed can incorporate structural monitoring data from the fiber optic sensors to compensate for stresses on the airframe, helping prevent situations that might otherwise result in a loss of flight control.

By extension, the application of the technology to wind turbines could improve their performance by making their blades more efficient.

"An improvement of only a few percent equals a huge economic benefit," Mr. Richards said. "The sensors could also be used to look at the stress of structures, like bridges and dams, and possibilities extend to potential biomedical uses, as well. The applications of this technology are mind-boggling."

## Crime Scene

### Damage to personal property

An active-duty E-5 assigned to 15 OSS reported damage to personal property on Fox Boulevard. The case is currently under investigation.

### Damage to government property

An active-duty E-3 assigned to 15 LRS reported damage to government property at Bldg 1856/King Hall. The case is currently under investigation.

### Vandalism to government property

The 15 AW/CV reported vandalism to government property at Bldg. 2065/Singapore Hanger. The case is currently under investigation.

### Theft of personal property

An active-duty E-6 assigned to PACAF/PA reported theft of personal

property on Aloalo Street. The case is currently under investigation.

### Shoplifting

Army Air Force Exchange Service store detectives observed a family member/spouse of a retired Air Force member attempting to remove merchandise totaling \$12.89 without rendering payment. The individual will have his/her AAFES privi-

leges revoked for one year and is awaiting for a magistrate hearing.

### Shoplifting

Army Air Force Exchange Service store detectives observed a family member/child of an active-duty member assigned to Bolling AFB attempting to remove merchandise totaling \$104.49 without rendering payment. The individual will have his/her AAFES privileges revoked for one year and is awaiting for a juvenile magistrate hearing.

### Citation total for the week

9 civilian traffic citations  
18 moving traffic citations  
10 non-moving traffic citations  
8 abandoned vehicle notices.



## HAZMAT, From A1

quently used tools into a single 12-cubic-foot box, a big reduction from the flight's previous four-case response package.

"During training, we were taking three or four different cases in at a time," said Airman Blair, who is deployed here from the Air Force Reserve Command's 514th Civil Engineer Squadron at McGuire Air Force Base, N.J. "It was annoying, heavy, and sometimes it took more than one group to go in just for something pretty simple. So after numerous training exercises, I said, 'We usually go in with these pieces of equipment, why not just put them all in one box.' It limits how many

times people have to go in, and it's pretty easy to wheel around."

Many bases receive the same hazmat response equipment in separate kits, said Master Sgt. Robert Genova, the 332nd ECES' Emergency Management Flight chief.

"The thought process (behind consolidating the kits) has been there for a while, but to be able to actually apply it in an expeditionary environment ... we've been able to hone the procedures" used for hazmat response, Sergeant Genova said.

The single response kit contains the detection, sampling, monitoring and identification equipment that 332nd ECES

EMF Airmen use for most of their responses. Excluded are tools the flight usually doesn't need.

Other bases in Iraq will learn the same emergency response tactics using the same equipment configurations, said Master Sgt. Michael Messina, the outgoing flight chief who will soon return to his home-station assignment at the Air Force Civil Engineer Support Agency at Tyndall AFB, Fla. AFCESA offers tools, practices and professional support to maximize Air Force civil engineer capabilities in base and contingency operations.

"We hosted a class for the other Air Force bases in Iraq to come over and learn the same tactics to the same level,"

Sergeant Messina said. "Since then, every one of those bases and some other bases in the (area of responsibility) have taken his idea and enhanced it or at least duplicated it. So what he's done ... has significantly changed some of our tactics and allowed the base to return to operational status more quickly."

Using a single response kit instead of three or four has cut the flight's response time by more than 75 percent, Sergeant Messina said.

"Instead of others waiting for us to respond, we are now responding and waiting for others," he added.

Another factor in the reduced response time is a change in the flight's posture, which is possible because of Airman Blair's

initiative.

"We have the equipment in ready-hot status versus a cold or warm status. We're ready to respond at a moment's notice; that's a monumental change in just the mentality for flights."

The change in mentality means that response teams are ready to enter the "hot zone" — the scene of a hazmat incident — almost as soon as they arrive. Airman Blair's initiative has allowed the flight to change their tactics, techniques and procedures. Sergeant Messina said

he plans to advocate the new tactics when he returns to AFCESA.

"This is something we need to pursue Air Force wide," he said. "What's great about it is that it's not something that's going to take 10 years to develop. It's an idea where you say, 'Everybody, get a case and put it together and modify it to meet your threats and your needs.' It's just a matter of taking that idea, that concept of operations, and applying it across the total force."

# Iraqi air force reaches 2,000-hour milestone

**By Tech. Sgt. Jeff Walston**  
506th Air Expeditionary Group  
Public Affairs

KIRKUK REGIONAL AIR BASE, Iraq (AFP) — The Iraqi air force reached 2,000 flying training hours here July 13, with the help of Airmen from the 52nd Expeditionary Flying Training Squadron.

The milestone comes 11 months after Lt. Col. Mark Bennett, the 52nd EFTS commander, arrived at Kirkuk.

"This is very significant across the entire operation, from maintenance, life support, intelligence and base support,"

said Colonel Bennett. "To go from zero to 2,000 hours in under nine months is an epic accomplishment. I am absolutely amazed we have been able to accomplish what we have.

"The risk associated with the Iraqi pilots and student pilots is significant, which makes this accomplishment even more astounding," he said.

"Consider the fact all their families are living in Baghdad under the current threat of insurgency and all the folks who would like to see us fail.

They are amazingly courageous individuals to come here and do this."

The Iraqi pilots believe

developing the Iraqi air force is important, Colonel Bennett said. They're student pilots today, but will be the Iraqi air force's future leaders.

When Colonel Bennett first arrived at Kirkuk in late 2007, he had one corner of a general purpose shelter, a sheet of plywood and two sawhorses with which to build his squadron.

"If you saw us nine months ago, we were nothing — no aircraft, no facilities, no students, no progress, no events at all," said Iraqi air force Colonel Basim, the Iraqi flying training wing deputy commander.

"When we started, we thought about how we would like it in

the future. The future is huge."

The Iraqi air force has risen like a phoenix from the sands to reach 2,000 flight training hours. But as huge as this milestone is, commanders, instructors and pilot trainees realize this is only a small step in a larger plan for the Iraqi air force.

"Five years ago, their air force was [non-existent]. Now they have an air force and a flying training wing that's flown 2,000 hours," said Capt. Jamie Riddle, a 52nd EFTS instructor pilot. "It's a tribute to how hard they've worked and how much our American advisers have

**See IRAQI, A8**



Photo by Oscar Hernandez

**Staff Sgt. Kevin Bremmer marshals a Cessna 172 July 13 at Kirkuk Regional Air Base, Iraq. The aircraft was flown by 2nd Lt. "Joseph," an Iraqi air force student pilot, and Capt. Jamie Riddle, a 52nd Expeditionary Flying Training Squadron instructor pilot. The pilots surpassed 2,000 flight training hours, marking a milestone for the Iraqi air force.**

**IRAQI**, From A7

worked.”

Captain Riddle and 2nd Lt. “Joseph,” an Iraqi pilot trainee, flew the sortie that chalked up the record for the team.

“Getting to this point was no easy task,” Lieutenant Joseph said. “I risked many things to come here, especially my relationship and my friends. I have to hide myself now because of the dangers I live in. I came here to be a pilot. My relatives, many of them don’t know I am here. These are the hardest challenges I face. I just found myself making the 2,000-hour mark with Captain Riddle. It’s just amazing and I’m so happy.”

The milestone was accomplished with no mishaps, and the 27 students in the squadron have flown more than 70 solo sorties combined. The training program averages 20 sorties a day, with all sorties logged as combat sorties.

“We are in the threat ring, if you will,” Colonel Bennett said. “There is a constant threat out there. Just outside the wire are individuals ... who could potentially do us harm, which makes the job that much more difficult.”

To date, the team effort at Kirkuk has proven a success everyone can be proud of.

“This huge accomplishment is from working hard together as a team. We don’t say Iraqi or U.S.,” said Colonel Basim. “As pilots and instructor pilots, we are a team. We are brothers. That is why we have success in our jobs as pilots and [why] we have reached this position.”

**News Notes****Continued from A1**

**15 SFS change of command** – The Security Forces Squadron change-of-command ceremony will be held next Friday, 10:30 a.m., at Hickam’s Missing Man formation. Public parking will be closed and reserved for DV parking; the track path that end at the Wright Brothers restaurant will be closed from 7 a.m. to noon. For more information, call Master Sgt. Darren Ashley at 449-1007.

## Military aircraft offer surge capacity for wildfire response

SACRAMENTO, Calif. (AFP) — A continuing heat wave and an ongoing need for aircraft to support ground firefighters will likely keep Department of Defense aircraft very busy for the foreseeable future in support of the national wildland firefighting effort, the Army colonel in charge of coordinating that support said July 9.

Col. Gary Stanley, a U.S. Army North defense coordinating officer, has been deployed since late June to the National Interagency Fire Center in Boise, Idaho, to coordinate federal requests for cargo planes and helicopters to fight wildfires raging in California.

Eight Air Force Reserve and Air National Guard C-130 Hercules aircraft equipped with modular airborne firefighting systems, known as "MAFFS," are dropping retardant on fires in California. The MAFFS are U.S. Forest Service-owned units that slide into the back of military cargo planes and turn them into air tankers that drop

fire retardant.

"The MAFFS are designed to supplement the commercial air tanker fleet during periods of high utilization," Colonel Stanley said. "Federal activation occurs when additional assets are needed to support initial or extended attack or for large fire support."

In this case, the MAFFS aircraft are based at McClellan Airfield, Calif., and have flown more than 300 sorties, dropping nearly 850,000 gallons of retardant from June 20 through July 9.

## Giant squids land at Dover AFB

**DOVER AIR FORCE BASE, Del. (AFP) —** A Reserve aircrew from the 326th Airlift Squadron landed July 11 at Dover Air Force Base, Del., with two giant squids in their cargo compartment.

The two sea creatures were transported in a C-17 Globemaster III from Europe and will be delivered to the Smithsonian National Museum of Natural History in Washington, D.C. The female preserved specimen will become the largest on display

## Airman deliver some strange cargo



U.S. Air Force photo by Roland Balik

**(From left) Senior Airman Michael Goicoechea, Master Sgt. Eric Weinmann, Master Sgt. Phillip Vickery and Airman 1st Class James Manier unload a giant squid from a C-17 Globemaster III assigned to Dover Air Force Base, Del., July 11. Two giant squids were flown from Europe to Dover AFB on July 11. The giant squids are headed to The Smithsonian National Museum of Natural History for display in the new Sant Ocean Hall, which opens Sept. 27 in Washington, D.C.**

in the United States. She measures 24.5 feet long, and the male measures 9 feet long.

Even though none of the aircrew or Space-A passengers could physically see the squids, Sergeant Vicker said everyone

could still see the long box, labeled with 'giant squids' stickers.

"They were really pumped up about it; they kept asking 'are those really squids in there,'" he said. "Even we did-

n't believe it, when we first saw it on the cargo manifest. We thought it had to be some type of Navy vessel."

The shipping container for the pair of squids was not as long as the actual bodies inside.

However, when on display, the female will be fully expanded horizontally, and the male will be encased in a vertical state, said Elizabeth Musteen, the project manager in exhibits at the Smithsonian.

"These specimens, brought up in deep sea fishing nets off the coast of northern Spain, are expected to be a main attraction," Mrs. Musteen said.

The colossal squids will make their public debut Sept. 27, when the Smithsonian opens its new Sant Ocean Hall, an exhibition area designed to support ocean education.

## WWII's 'The Swoose' finds new home at Air Force museum

**DAYTON, Ohio (AFP) —** The Swoose, the oldest surviving B-17 Flying Fortress and the only "D" model still in existence, was transferred from the Smithsonian National Air and

Space Museum to the National Museum of the U.S. Air Force.

Shipment of this unique aircraft from Washington, D.C., is in progress and it is expected to be completed in the coming weeks.

"We are pleased that The Swoose is coming to the National Museum of the U.S. Air Force," said Terry Aitken, the museum's senior curator. "The transfer between the two federal institutions is a demonstration of good stewardship of our national historic collection. Our museum's restoration staff will use their experience and expertise being gained from the restoration of the famous Memphis Belle to accurately restore The Swoose, which is so important to our history."

The Swoose will undergo an extensive and detailed technical inspection. Based on the findings, the museum will determine how to best restore and display the historic aircraft. The extensive restoration is expected to take a number of years.

Visitors may see both The Swoose and Memphis Belle in the museum's restoration facility by signing up for a behind the scenes tour held each Friday.