

DESERT WINGS

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Exchange program brings South Korean test pilots to TPS



Evan Thomas (right), U.S. Air Force Test Pilot School instructor, gives a Republic of South Korea Air Force pilot some tips while sitting in an F-16 Nov. 3. (U.S. Air Force photo by Joseph Gocong)

From 412th Test Wing Public Affairs

The Korean Test Pilot School brought two students and two instructors to Edwards to fly T-38s and F-16s from Oct. 30-Nov. 4. The visiting pilots flew with the U.S. Air Force Test Pilot School as part of the school's international exchange, which was in fulfillment of their students' final project requirements. TPS sent students to South Korea in 2014 to fly the T-50 and

other Korean aircraft, and the ROK pilots have, in turn, visited here.

Korea can trace its aviation heritage back to 1922 when An Chang-nam became the first Korean pilot to fly in his country's air space, according to Globalsecurity.org. Military aviation started about the same time. Korean expatriates desiring to support the independence movement in their homeland went through flight training at aviation schools in other countries. Korea's first six military pilots received their training in Curtiss JN-4s in 1920 at the Redwood flight school in Northern California.

According to an article published in *The Diplomat*, written by Leon Whyte, the U.S. military helped build the foundations for the Republic of Korea and has had a physical presence in the country for almost all of its history. Underscoring the importance of this relationship, that during the short period after U.S. forces left Korea in 1949, North Korea invaded the ROK and started the Korean War.

TPS has also had student exchanges this year with Spain, Sweden, Great Britain, France and Finland. TPS students have flown the Mirage 2000s, Alpha Jets, Grippens, T-50s, Hawk Jets, A109 Helicopters, RJ100 regional jets, and F-18s.

(Some information courtesy of the U.S. Air Force Test Pilot School)

AFRL launches new approach to promote STEM classes

From Air Force Research Laboratory
Rocket Propulsion Division

The Air Force Research Laboratory Rocket Propulsion Division is launching a new program to promote science, technology, engineering and mathematics classes and announces the first six projects started in local high schools this year in that effort.

The AFRL Rocket Lab is calling its new program ENSPIRE, which stands Engineering & Science Producing Inspirational Rewarding Education. The program seeks to inspire innovation in students to become more involved in STEM efforts by seeking unique and innovative STEM projects that develop the next generation of STEM activities in schools to take the program to a new level in the Antelope Valley, organizers say.

Schools were required to submit their proposals to the Rocket Lab explaining how they would improve STEM in their classroom, their school, or across the district. These proposals included a short write-up and a budget for the year-long project.

Six high school STEM projects have been started under the ENSPIRE program since its inception this year. Tehachapi High School, Rosamond High School, Boron Junior-Senior High School, Hesperia High School, Antelope Valley High School and The Palmdale Aerospace Academy have all started projects, which were announced last month by Kriss Vander Hyde, education outreach manager for AFRL.

"The goal of AFRL Rocket Lab STEM is to inspire kids all across



From left to right: Mathew Winheim, The Palmdale Aerospace Academy, deputy headmaster; Priscilla Diaz, TPAA, student; Sarah Mellor, TPAA student; Patrick Brophy, TPAA, math instructor; Kriss Vander Hyde, Air Force Research Laboratory Rocket Lab Educational Outreach manager; and Dr. Richard Cohn, AFRL Rocket Lab, chief engineer; pose for a photo after Brophy was presented with an AFRL award for his project: Building Awareness of Distracted and Impaired Driving through Robotics. (Courtesy photo)

the Antelope Valley to become the next generation of scientists and engineers, not just for the Air Force but all the industries across the

See AFRL, page 3

412th Test Wing announces third quarter award winners

By Kenji Thuloweit
412th Test Wing Public Affairs

The 412th Test Wing announced its third quarter award winners during a ceremony at the Base Theater Nov. 14. Fifteen Team Edwards members and one test team were recognized for their outstanding work during the past quarter (July-September). Congratulations to all the winners!

3rd Quarter Award Winners

Airman of the Quarter
Senior Airman Aireannah Haga
412th Medical Group

NCO of the Quarter
Staff Sgt. Jacob Cumbo
412th Civil Engineering Group

Senior NCO of the Quarter
Master Sgt. David Peralta
412th Maintenance Group

Company Grade Officer of the Quarter
Capt. Brian Gilliam
412th Mission Support Group

Field Grade Officer of the Quarter
Maj. Raven LeClair
412th Operations Group

Dorm of the Quarter
Airman 1st Class Latoya Person
412th MXG



Satwaji Kumar, 412th Civil Engineering Group, throws a pass to a simulated New York Giants wide receiver Odell Beckham Jr. at the Base Theater. Kumar was one of the 412th Test Wing 3rd Quarter Award winners who were announced at the quarterly awards ceremony Nov. 14. (U.S. Air Force photo by Jenny Correa)

Honor Guard of the Quarter
2nd Lt. Christopher Arnold
412th Test Engineering Group

Supervision/Management of the Quarter
Charles Webb
412th Test Engineering Group

Scientific/Engineering of the Quarter
Satwaji Kumar
412th CEG

Technician of the Quarter
Gregory Hogan
U.S. Air Force Plant 42

Trades and Labor of the Quarter
Garet Garcia
412th MXG

Secretarial/Clerical of the Quarter
Christine Avilucea
U.S. Air Force Plant 42

Staff/Specialist/Analyst of the Quarter
William Jones
412th MXG

Program Manager of the Quarter
Marlene Escobar
412th MSG

Team of the Quarter
F-15SA Combined Test Team
412th OG

Volunteer of the Quarter
Denise Santos
412th Test Wing Chapel Office



Wingman Day champs

The 412th Operations Support Squadron's "Team Goose" poses for a photo after winning the Wingman Day dodgeball competition Nov. 7. The dodgeball games wrapped up a day that began with a color run at the fitness center followed by presentations on physical resilience and overall health by unit resiliency trainers. Businessman and pilot Mark Patey spoke at the Base Theater. Wingman Day is a down day for units to take part in training and other unit activities. (U.S. Air Force photo by Jenny Correa)

AAFES Thanksgiving Day hours

| | |
|------------------------|----------------|
| Exchange | Closed |
| Express | 10 a.m.-5 p.m. |
| Burger King | Closed |
| Starbucks | Closed |
| Arby's | Closed |
| Charley's | Closed |
| Taco Bell | Closed |
| Popeye's | Closed |
| NASA food court | Closed |
| Mary's Place | Closed |
| Domino's (both stores) | Closed |
| The Cleaners | Closed |
| Stripes Alterations | Closed |
| Enterprise | Closed |
| Beauty Shop | Closed |
| Barber Shop | Closed |
| GNC | Closed |
| Petals & Blooms | Closed |
| Lock & Leave Storage | Closed |
| Firestone | Closed |
| NAPA Auto Parts | Closed |
| King Photography | Closed |

AAFES Family Day (Nov. 25) hours

| | |
|---------------------|----------------|
| Exchange | 4 a.m.-8 p.m. |
| Express | 5 a.m.-11 p.m. |
| Burger King | 6 a.m.-7 p.m. |
| Starbucks | 6 a.m.-5 p.m. |
| Arby's | Regular hours |
| Charley's | Regular hours |
| Taco Bell | Regular hours |
| Popeye's | Regular hours |
| NASA food court | Closed |
| Mary's Place | Closed |
| Domino's (both) | Regular hours |
| The Cleaners | Regular hours |
| Stripes Alterations | Regular hours |
| Enterprise | Closed |
| Beauty Shop | Closed |
| GNC | Regular hours |
| Petals & Blooms | Regular hours |
| Lock & Leave | Regular hours |
| Firestone | Regular hours |
| NAPA Auto Parts | Regular hours |
| King Photography | Closed |
| Barber Shop | Regular hours |

FSS Thanksgiving Day holiday hours

| | |
|--------------------------------|---|
| Aero Club | Flying from sunrise to sunset. Office closed. |
| Joshua Tree Dining Facility | |
| Breakfast | 6-8 a.m. |
| Lunch | 11 a.m.- 2 p.m. |
| Dinner | 4-6:30 p.m. |
| Midnight Meal | 11 p.m.-1 a.m. |
| High Desert Inn | always open |
| Club Muroc (reservations only) | 11 a.m.-2 p.m. |
| Rosburg Fitness Center | 8 a.m.-4 p.m. |

FSS Family Day (Nov. 25) hours

| | |
|----------------------------------|---|
| Aero Club | Flying from sunrise to sunset. Office closed. |
| Joshua Tree Dining Facility | |
| Brunch | 6 a.m.-1 p.m. |
| Dinner | 4:30 p.m.-7 p.m. |
| Midnight Meal | 11 p.m. -1 a.m. |
| High Desert Inn | always open |
| High Desert Lanes Bowling Center | 10:30 a.m.-midnight |
| Rosburg Fitness Center | 8 a.m.-4 p.m. |

All other FSS facilities will close for Thanksgiving Day and Family Day.

Normal hours will resume Nov. 28

Help tell the Edwards story

Edwards Air Force Base is world-famous in the flight test world. From the XP-59 Airacomet, the first military jet fighter in the United States, to the F-22 and the F-35, virtually every aircraft in the U.S. Air Force inventory has been tested in the skies over Edwards.

But flight testing is just one facet of Edwards Air Force Base. Community events, heroic acts, and exceptional and inspirational people here are just a few amongst many examples of stories that warrant telling.

Telling these stories is the job of the 412th Test Wing Public Affairs team, but they can't do it all without help. Members of the Edwards community are encouraged to submit story ideas to: newsroom@edwards.af.mil.

To inform and entertain our audiences, both locally and globally, the team is also looking for volunteer writers to help tell the Edwards story. Writers do not have to be attached to specific units or agencies, they must only have knowledge of a story and the desire to tell it.

Basic journalistic instruction can be provided for those interested. For more information, call 277-6082.

412th Force Support Squadron upcoming events

Aero Club 275-AERO

Aero Camp is Monday-Friday, 8 a.m.-4:30 p.m. Three winter sessions available: Dec. 19-23 and 26-30; Jan. 2-6, 2017. Learn the first steps in training our future pilots. Minimum of three to maximum of six participants. Includes private pilot ground school kit. Pre-registration required. Call for price and registration.

Airman and Family Readiness 277-0723

Women's, Infants' & Children's (WIC) Clinic Monday, Nov. 21, 9:30 a.m.-3 p.m. Open for both walk-ins and appointments, closed for lunch noon-1 p.m. For an appointment or voucher information, call toll free 866-327-3074.

Pre-Separation Counseling is Wednesday, Nov. 23 and Nov. 30, 8:30 a.m.-noon. Pre-Separation Counseling is a prerequisite for the 5-day Transition Assistance Program. Spouses are highly encouraged to attend.

Smooth Move is Wednesday, Nov. 30, 2-3 p.m. Edwards Smooth Move seminar will assist in ensuring you select the proper path for a successful PCS, whether it be planning for an OCONUS or CONUS move. The goal is to ensure you receive valuable information necessary to make informed decisions and alleviate stress that might come with a relocation.

Bundles for Babies is Dec. 2, 9-11:30 a.m. Quarterly class providing "bundles" of information with a finance piece that focuses on budgeting for your baby from conception to college and a chance to find out what support programs are available on base and in the community. Class is open to all ranks and not limited to first pregnancy.

Club Muroc 275-CLUB

Movie Night is Saturday. Doors open at 5 p.m., movie begins at 6. Enjoy dinner and a movie with one free kid's meal (under 12) with the purchase of one adult meal.

Thanksgiving Luncheon is Nov. 24. Seatings: 11 a.m. and 2 p.m. Kids under six are free. Reservations required. Turkey, ham roast, mashed potatoes and gravy, sweet potatoes, corn, stuffing, mac and cheese, green bean casserole, baby carrots, deviled eggs, cranberry sauce, rolls and assorted pies will be served. Call for reservation and prices.

Let Club Muroc Cook your Holiday meal so you can enjoy time with friends and family. Orders need to be in by 4 p.m. Nov. 18 and must be picked up no later than 9 a.m. on Nov. 24.

Tipsee Artist Paint Night is Nov. 29. Doors open at 5:30 p.m. Come test your artistic talents! Painting starts at 6 p.m. Must be 21 to drink. Call for prices.

Club Membership Appreciation Giveaway lasts through Tuesday. Win a 2017 Jeep Wrangler, Apple MacBooks, 4K Ultra HD Smart LED TV's and more! These are some of

the prizes we will be giving random Air Force Club members as our way of saying thank you. Be sure to enter here for your chance to win! <http://www.myairforcelife.com/giveaway>.

Education and Training 277-2713

Job Training, Employment Skill Training, Apprenticeships and Internships is a new career skills program. It institutes job apprenticeships, on-the-job training, job shadowing, employment skills training, and internships that offer skills training opportunities to Airmen (officers and enlisted) preparing to transition from military to civilian employment who have 160 days left on active duty to participate in the program. Eligibility and program information will be forthcoming as Air Force roles out additional implementation guidance. For more information, please contact the Education and Training Center at 277-1462/2713.

High Desert Lanes Bowling Center 275-BOWL

Thanksgiving 9 Pin No Tap Tournament is today, 5 p.m. Register now at High Desert Lanes. 1st-, 2nd- and 3rd-place cash prizes.

Breakfast with Santa is Dec. 11, 9-11 a.m. Pancakes, scrambled eggs, bacon, sausage served with juice. Unlimited games and shoes with purchase of breakfast. Fun for the whole family. Visit with Santa and don't forget your camera!

NFL Sunday Ticket is 9:30 a.m.-7 p.m. The Big Game is on at High Desert Lanes Bowling Center. Active duty who wear their team's shirt, get a free game of bowling with rental shoes! Breakfast served all day. Appetizers and wing specials are available!

Library 275-BOOK

Children's Story Time is every Wednesday and Friday, 10 a.m. Toddlers and pre-school children are invited for story time and to create very unique craft projects. Volunteer readers are welcome. Special Holiday Story Time for Thanksgiving is Wednesday.

Muroc Lake Golf Course 275-PUTT

Turkey Trot Tournament is Saturday, 8 a.m., with a shotgun start (if not frosty). Sign up by Wednesday. This Thanksgiving-themed event features prizes for closest to the turkey. All participants will receive a coupon for a frozen turkey. Southern California Golf Association handicap required.

Oasis Community Center 275-CNTR

Holiday Card Lane Registration runs through Wednesday. This year's theme is "The Nightmare Before Christmas." All cards must be in place by Dec. 1 and will be displayed throughout the holiday season. The cards will

For more information about 412th FSS offerings, visit www.edwardsfss.com/wordpress.

be judged and the winners announced at the annual tree lighting ceremony on Dec. 2, 5:30 p.m. at the BX parking lot.

Thanksgiving Craft Night is today, 5-7 p.m. Participants will make Thanksgiving coloring placemats.

Lunch Hour Table Games Tournament is today, 11:30 a.m.-1:30 p.m. Foosball, ping pong, air hockey, shuffleboard and pool are available.

Tree Lighting Ceremony/Winterfest Vendors The FSS is offering a fundraising opportunity for private organizations and home-based businesses to be vendors at our Winterfest Dec. 2! This event is in conjunction with our annual Tree Lighting Ceremony and Holiday Card Lane and we want to expand the fun and spirit of the holidays! If interested come to the Oasis Community Center, Bldg. 2500, to sign up. Sign up is on a first-come, first-served basis.



Adopt!

Gracie is a beautiful, young, fluffy, diluted torti. She enjoys being petted and loves attention. When you walk into the room Gracie will talk with you. She has been completely vetted and microchipped. Contact APET Rescue to adopt this sweetie! APET is located at 615 S. Forbes Ave. They're open Monday-Friday, 4:30-6 p.m.; and Saturday and Sunday, 3:30-5 p.m. 661-258-9525.

Ties to tech, innovation communities critical to DOD

By Terri Moon Cronk
Defense Media Activity

The ties between the Defense Department and commercial technology and innovation keep the U.S. military agile as it meets today's challenges and remains ready for the future, Defense Secretary Ash Carter said today.

In a forum hosted in Washington by The Atlantic magazine and innovation firm 1776, the secretary discussed DOD's technology partnerships and the Force of the Future.

While DOD focuses on five evolving threats from China, Russia, Iran, North Korea and the Islamic State of Iraq and the Levant, "I also need to make sure that we're ready for things that we cannot foresee today -- as ready as we can possibly be," Carter said.

DOD and the commercial technology and innovation worlds have maintained a decades-long tradition of cooperation, which is a reason the U.S. military is the finest in the world as it provides security for its people, Carter said, adding the close connection between the two realms is globally unrivaled.

"It's a competitive world," he said, adding, "[And] even as it is competitive in the commercial world, it is competitive in the security world, and if we relax our guard and we just assume it's a birthright to be the best, that gap is going to close. I can't allow that to happen."

The secretary said innovators are the people who want to make a difference, and they can help protect the nation's people and civilization by working on projects with DOD through the Defense Digital System, such as keeping DOD's nuclear command and control system from being hacked.

"That's ... where best practices and the talent of people from the outside have made a very material difference," Carter said.

"I'm trying to make us permeable enough that people can come and go," he added. "Some people will want to serve in



Defense Secretary Ash Carter speaks about Force of the Future technology and innovation initiatives at the Atlantic Exchange forum in Washington, D.C., Nov. 14, 2016. (DOD photo by Navy Petty Officer 1st Class Tim D. Godbee)

uniform, some people will want to serve in the civil service, and that's great and I want them to."

The secretary suggested that start-up businesses connect with DOD through its Defense Innovation Unit Experimental -- also known as DIUx -- with outposts in Silicon Valley, California; Boston; and Austin, Texas. DIUx links with America's leading innovators so they can help address national security challenges and ensure America's warfighters remain on the cutting edge of technology.

"There is nothing better than waking up in the morning and being part of this fundamentally important thing," Carter said of working on the department's mission.

"There are a lot of wonderful things in life," he said, "but none of them can be had unless we're safe. I always tell [the troops], 'You get to get up in the morning and know that your heart is bigger than yourself.'"

STEM students look at education, agriculture, impaired driving

From AFRL, page 1

United States," Vander Hyde said.

Tehachapi Unified School District proposed a project to build "Mobile Maker Carts" that can be used by the high school robotics team to get junior high and elementary students interested in the school STEM program. These carts will be used by the students of the Tehachapi Robotics Team in their Peer Teaching Program to teach engineering and programming in other schools.

Rosamond and AV High Schools both proposed using drones in unique ways. Rosamond is using drones to reach out to their STEM students and do a program where student teams will build their own unmanned aerial vehicle. AV High School proposed to use drones and infrared sensors in precision agriculture to monitor crop growth and watering efficiency.

Robots were the main theme in Boron, Hesperia and The Palmdale Aerospace Academy projects. Boron Junior-Senior High School is using robots to teach engineering and critical problem solving, while Hesperia High School is expanding its robotics team and including significantly more students in its program.

The Palmdale Aerospace Academy's idea is to build a simulator that will demonstrate impaired driving by having students drive robots around a miniature town. The course, robots and software will all be designed and built by academy students who will then be able to measure perception and reaction times of the students using the simulator.

"Future advances in STEM are critical to solving the world's problems and without an inspired, motivated group of young people entering the field, we will surely be left behind."

*Dr. Richard Cohn
chief engineer, AFRL Rocket Lab*

By extending the frontier of STEM education in the Antelope Valley, AFRL is looking for new engineers and scientists to grasp the cutting-edge technologies that the United States will need in the future to maintain the nation's influence in the world, organizers say.

Dr. Richard Cohn, chief engineer of the AFRL Rocket Lab, said, "Inspiring students to pursue STEM is critical for the future of our nation. Future advances in STEM are critical to solving the world's problems and without an inspired, motivated group of young people entering the field, we will surely be left behind. These programs provide a phenomenal opportunity for the young people of the Antelope Valley to become inspired to lead the charge."

The Air Force recognizes there is a critical need for STEM talent for future technology and innovation efforts within the nation's STEM workforce, organizers say. A diversified STEM talent pool will establish the pace of technological advancements and enable the Air Force to avoid surprises. A transformational STEM workforce will also direct the path of technological dominance and sustain a combat edge for the armed services.



This Week in Edwards Flight Test History

On Nov. 15, 1941, the Army's first test of a General Motors A-1 "flying bomb" took place. The unmanned monoplane, to be guided by either preset flight program or radio control, reached a speed of 97 mph on its rail launch track but settled to the ground and crashed soon after takeoff. The 200 horsepower aircraft, developed by Charles F. Kettering, was a larger version of the biplane "Bug" tested during World War I. (Edwards History Office file photo)



(U.S. Air Force photo)

Edwards Exchange seeking volunteer groups for gift-wrap program

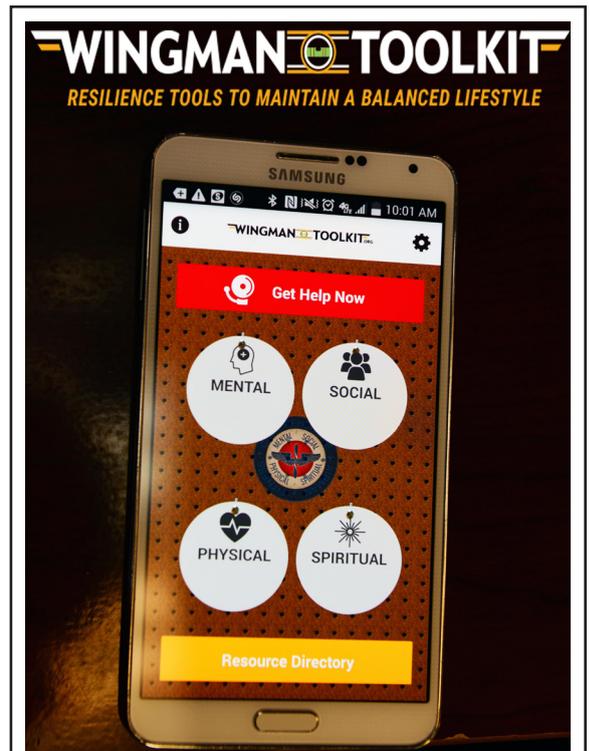
By Rebecca McMartin
Army & Air Force Exchange Service Public Affairs

Edwards Exchange volunteer groups looking to raise money and spread some holiday cheer this season can turn to the Edwards Exchange. The Exchange is seeking partners for the Army & Air Force Exchange Service's annual community gift-wrap program.

As part of the program, the Edwards Exchange sets up tables and provides supplies that community volunteer groups can use to wrap gifts during the busy holiday shopping season in exchange for donations.

"The Exchange's community gift-wrap program helps military families make the most of the hectic holiday season," said Edwards Exchange Pamela Valley, sales & merchandise manager. "They can check items off their gift lists and get those presents wrapped in just one stop. As an added bonus, Edwards's community groups get a chance to raise money for their worthy causes."

Interested organizations can contact the Edwards Exchange at 285-1078, ex. 202 for information on scheduling a time to participate in the community gift-wrap program.



The Wingman Toolkit, an outreach and communication tool designed to ensure Airmen have quick and easy access to the latest Comprehensive Airmen Fitness programs and resources, now has a mobile app available to download. The app can be downloaded on iPhones and Android-based smart phones. The toolkit provides resources like videos, stories and testimonies that can help Airmen improve Comprehensive Airmen Fitness. For more information, visit www.wingmantoolkit.org. (U.S. Air Force graphic)

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