F-35C targeting system guides weapon to moving target

By Christopher Ball
412th Test Wing Public Affairs

The F-35 Integrated Test Force recently performed another first-of-its-kind test when the aircraft released a laser-guided bomb against a moving target. An F-35C being tested here released a specially-built GBU-12 Paveway II guided bomb over a controlled range at Naval Air Weapons Station China Lake in the California desert, successfully engaging a small pickup truck March 29.

According to engineer Collin O’Fallon of the 775th Flight Test Squadron, this F-35 weapons delivery accuracy test was the first from an F-35 in the 3F software configuration, which has incorporated new release logic to enhance effectiveness against moving targets, with the objective of reducing pilot workload. O’Fallon is matrixed to the 461st Flight Test Squadron “Deadly Jesters” for the testing.

“This logic is called Lead Point Compute, which in essence, delays the release point of the weapon to ensure the weapon has the available kinematics to guide to and reach the target at its future location,” O’Fallon said.

The system evaluates the speed and direction of the target against the altitude and speed of the aircraft to determine the exact release.

“The higher and faster you go, the farther you can sling the thing,” he said.

The GBU-12 is a proven weapon with many years of service on multiple platforms. So these tests are designed to stress the weapon platform — the aircraft — rather than the weapon itself. For testing, the GBU-12 was built up using an explosively inert warhead, and the fuze was replaced with an inertial measurement unit to measure accelerations during employment, according to O’Fallon.

“This was really a test of the aircraft targeting system and associated weaponeering logic, and the results of this test will be used to certify this capability with a GBU-12 on the F-35. The weaponeering logic is all the information compiled to give the pilot that one solution.

“(The pilot) doesn’t have to think about how fast the target’s going, or what direction,” O’Fallon said. “By him using this 3F capability, it’s doing all the weaponeering for him. That’s really the big thing. It’s a single seat fighter. He’s got to do it all, so we want to do as much for him as we can.”

Although the GBU-12 was inert, it still made short work of its intended target, a small pickup truck.

O’Fallon said the decision was that the target vehicle would

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Civil Engineer employees learn how to build careers

Jabuaur Rorie, Air Force Personnel Center Civil Engineer career field advisor, speaks to an audience at the base theater April 6. Rorie was part of a two-man team who visited Edwards as part of the Civil Engineer Career Field Team Road Show, which provides insight to CE personnel on career management and development. (U.S. Air Force photo by Ethan Wagner)

By Kenji Thuloweit
412th Test Wing Public Affairs

A two-man team from the Air Force Personnel Center provided some key insight into career development in the world of Air Force Civil Engineering April 6.

Members of the 412th Civil Engineer Group packed into the base theater to learn about career management and development during the one-day Civil Engineer Career Field Team Road Show. Topics included basic-to-senior level professional development courses, tuition assistance, career-broadening assignments and how the job-selection process works throughout CE and AFPC.

According to the AFPC presentation, Air Force Civil Engineer has more than 12,500 current civilian employees in more than 130 occupational fields across 114 duty locations worldwide. The workforce provides civil engineering services to Air Force installations to help enable the warfighter to carry out the Air Force mission.

Here at Edwards, there are more than 600 personnel working in the 412th CEG with most of the force being government civil servants. Murray Westley, 412th Civil Engineer Squadron director, said the visit from the AFPC field representatives was informative and constructive.

“It really benefitted the rank-and-file employees,” said Westley. “Not everyone is going to get a master’s degree (to advance in the workforce). “It was very beneficial to show the different career paths available to them.”

He added that the two AFPC representatives made themselves available after the theater session for individual mentoring and advice, which up to 20 people took advantage of.

Attendees were encouraged to take ownership of their careers, set goals and build relationships with supervisors and mentors to help guide them through the proper advancement path if that is what they desire. Additional themes were vectoring people to the correct positions and keeping personnel records and resumes updated.

“It was great to see the developmental opportunities in CE from an outsider. It opened up the eyes of a lot of employees, especially the younger ones,” Westley said.

Third- and fifth-graders get chance to fill their pillowcases

By Kenji Thuloweit
412th Test Wing Public Affairs

It was the third- and fifth-grade classes’ turn to learn about emergency preparedness with a return visit from the Red Cross April 11.

The Edwards Office of Emergency Management, 812th Civil Engineering Squadron, invited the American Red Cross to Irving L. Branch Elementary for part two of the Red Cross’ Pillowcase Project presentations. Branch third- and fifth-graders received a lesson in emergency preparedness with encouragement to take what they learned back to their families. Red Cross personnel already visited in January to conduct the training with the fourth-graders.

The Pillowcase Project is sponsored by The Walt Disney Company, which allows Red Cross volunteers to visit third-through fifth-graders around the region bringing them information and preparedness tools.

“Our goal with the Pillowcase Project is to teach children the skills they need to be safe and remain calm during emergencies,” said Haley Seibel, AmeriCorps member with the Disaster Cycle Services Department at the American Red Cross. “Through our partnership with Disney, we have been able to make it a really fun event for the kids. It isn’t meant to be scary; kids tend to be more afraid of what isn’t talked about or what they don’t understand. We hope that this will start a dialogue and help everyone in their households to think about and be better prepared for disasters.”

The students each received a preparedness toolkit, which includes a “My Preparedness Workbook” and a personalized pillowcase to build their personal emergency supplies kit. The children are able to put items in the pillow case they may need during an emergency as well as draw pictures of items and people on the outside. They also received a pledge certificate and an Air Force “Be Ready Kids!” activity book from Edwards AFB Emergency Management.

The one-hour sessions with the Red Cross volunteers and students were interactive, with the visitors calling upon the students to talk about what they know about emergencies and what they learned during the class.

Subjects touched on by Seibel and the other volunteers included managing stress during an emergency; what to do in case of a fire or earthquake; and what items the children should pack during an emergency.

According to the Red Cross, more than 515,000 students have been taught preparedness skills through the Pillowcase Project.
AFRL program strikes resounding chord with students

The school announced the music project to its local community as part of its Lancaster High Robotics Team 399’s annual robot rollout to show the efforts LHS has already put toward furthering STEM programs, and to display the partnership between the robotics team and the “Theremin Me” project.

The school also recognized AFRL and the benefits of the ENSPIRE program’s help in promoting STEM programs.

1st Lt. Harvey Hurst, the “Theremin Me” ENSPIRE program manager and an AFRL program manager, was asked to offer a few words as a representative for the ENSPIRE sponsorship and as the new mentor for Team 399.

“I have no doubt the team will continue to use these (EN-SPIRE) funds to innovate and educate others on the importance of not only STEM, but STEAM as well; and their efforts of incorporating art into STEM played a key role in establishing the educational partnership agreement with AFRL.”

The AFRL Rocket Lab ENSPIRE program seeks to inspire innovation in students to become more involved in STEM curriculums by seeking exceptional and pioneering projects that develop the next generation of STEM activities in schools to take STEM programs to a new level in the Antelope Valley. Schools were required to submit their proposals to the AFRL 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 projects. The Rocket Lab has partnerships with 10 local high schools through the program.

Partnerships between the local community and the AFRL are extremely important, according to Kriss Vander Hyde, lead for the AFRL Rocket Lab ENSPIRE program.

“At the Rocket Lab, we recognize a great need for STEM talent to develop the advancements we need for Air Force technology dominance, said Vander Hyde. “EN-SPIRE takes another step in paving the road for STEM growth and ensuring America’s reign as a technological powerhouse. We believe that projects like ‘Theremin Me’ will inspire our students to take the career path that will shape our nation’s technology and our future.”

An F-35C from the 461st Flight Test Squadron at Edwards Air Force Base, California, releases a GBU-12 Paveway II guided bomb March 29. The inert bomb tracked a moving pickup truck on the ground at Naval Air Weapons Station China Lake in California. The fifth-generation fighter was flown by Col. Scott Cain, 412th Operations Group commander. (Courtesy photo by Darin Russell/Lockheed Martin)
On April 20, 1987, the new control tower was officially opened with the takeoff of an F-15. The new facility, which is stressed to withstand an 8.0 magnitude earthquake as well as 120-plus mph winds, replaced the 10-story red and white structure that had been a landmark since 1956. Today, the cab of the old tower is at the Century Circle exhibit outside the West Gate entry point. (Edwards History Office file photo)

Egg-stravaganza!

By Kayla Fagan
412th Force Support Squadron

Nearly 1,000 people from Edwards AFB participated in the first Easter Egg-stravaganza hosted by the 412th Force Support Squadron April 15.

After “Breakfast with the Easter Bunny” at the High Desert Lanes Bowling Center, about 500 children filled their baskets with candy-filled eggs at Wings and Roberts fields. After all 8,000 eggs were collected, families stayed to enjoy complimentary hot dogs and cupcakes and enjoy the sunshine before the next event began, which was the “Underwater Egg Hunt at the Oasis Aquatic Center.

When the day was over, the 412th FSS had given out 500 hot dogs, 375 cupcakes and 70 pounds of Easter candy along with countless smiles and laughter.