

## AFJROTC cadets track NASA's moon spacecraft

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10/19/2009 - **MAXWELL AIR FORCE BASE, Ala.** -- Air Force JROTC cadets at the Lewis Center for Educational Research's Academy for Academic Excellence can now say they made history by being some of the first American children to venture to the moon.

The students at AAE in Apple Valley, Calif., represent the largest number of youth from schools around the world to track NASA's Lunar Crater Observation and Sensing Satellite, during its 110-day mission.

The satellite aimed to gather evidence of ice water at the south pole of the moon by impacting the moon's surface with the Centaur upper stage attached to the LCROSS spacecraft. Immediately after the spacecraft's landing, the LCROSS stewarding spacecraft would travel through the impact plume to measure and relay data to earth prior to its own impact shortly after.

"From launch to impact, LCROSS received commands from the Goldstone Apple Valley Radio Telescope, or GAVRT, antenna array that AAE controls," said retired Col. George Armstrong, AAE AFJROTC unit senior aerospace science instructor. "NASA only controlled the spacecraft for two out of every 72 hours of flight. That means that a high school student, sometimes an AFJROTC cadet, controlled and monitored LCROSS for 97 percent of its mission."

More than 400 AAE students, faculty and family members gathered in classrooms Oct. 9 to



More than 400 students, faculty and family members gathered at the Academy for Academic Excellence campus in Apple Valley, Calif., at 4 a.m. on Oct. 9 to watch the Lunar Crater Observation and Sensing Satellite's, or LCROSS, impact of the moon. The Lewis Center for Educational Research's AAE Air Force JROTC cadets tracked the satellite spacecraft for 110 days employing the Goldstone Apple Valley Radio Telescope (GAVRT) in the Mojave Desert. The AAE AFJROTC cadets tracked and photographed the crater impact Oct. 9 and sent the first viewed images to NASA. (U.S. Air Force photo/Senior Airman Melissa Copeland)

watch the live viewing of the impact.

"I think being at important events such as this, being with other kids and people, has an impact on students and may encourage their interest in science or math careers," said Cheryl Thompson, development and media relations manager for the Lewis Center. "I believe that being here in person to watch the impact is a wonderful way to see a mission to its end."

Although the impact was complete, some students had other tasks to accomplish.

"Of course compiling the 400 or more images into a short video for NASA, and then analyzing them closely to see the plume of the impact was great too," said Cadet Ariel Bluy, AAE student and AFJROTC cadet. Cadet Bluy tracked the mission via radio telescope and photographed the impact to produce some of the first images sent to NASA. "The excitement from that night still has me pumped up and ready to go do some more," she said.

A fellow student and cadet, Emilie Rizzo, said she enjoyed being part of something that will have a lasting effect on future generations.

"The average high school student rarely has the opportunity to do something of such importance, something that will have repercussions well outside my tiny sphere of influence," Cadet Rizzo said. "It is truly amazing to see a room full of elementary children at 4:30a.m. brimming over with excitement, asking questions and participating in discussions; I remember that was me not so long ago, sitting cross-legged on the floor, transfixed by the magic of science."

According to Colonel Armstrong, AAE cadets should expect to see another space project, like LCROSS, in the future.

"Our cadets will be involved anytime [GAVRT] is involved in a space mission," the colonel said. "Moreover, any high school with AFJROTC can partner with AAE, allowing cadets all over the world the opportunity to be actively involved in a space mission."

The Lewis Center is the parent organization for the AAE and the Norton Space and Aeronautics Academy. In addition, the center operates the GAVRT in partnership with NASA and the Jet Propulsion Laboratory for students in kindergarten through 12th grade. The GAVRT program, located in the Mojave Desert, has reached more than 32,000 students in 37 states, 14 countries and three U.S. territories since 1996.

"GAVRT is how we are able to help NASA track the LCROSS mission," Ms. Thompson said. "Students are jazzed that they get to operate the telescope and record the data on the screen. Knowing they are gathering data from deep space is exciting."

"Being a part of the mission has required a certain amount of maturity, as well as communication and teamwork - all character traits that we strive for in AFJROTC," Cadet Rizzo said. "Successfully dealing with physical and academic challenges in AFJROTC has

also prepared me to deal with situations we have encountered in GAVRT and LCROSS."

With students from Oregon, Idaho, Hawaii, Alabama, Texas, England, Germany, Puerto Rico and Chile connecting to the Lewis Center's Mission Control via internet, the project has become a vital asset to the space education of today's youth.

"Without science the world would be sitting still and going nowhere," Cadet Bluy shared. "There would not be theories and other such things that are the most thought-provoking in the universe. Science is important because someone took the time to ask and figure out why."

The AFJROTC program has more than 102,000 ninth through 12th grade cadets enrolled in school spanning 48 states, the District of Columbia, Puerto Rico, Italy, Germany, Belgium, Netherlands, United Kingdom, Japan, Korea and Guam.

The program aims to develop the youth of today into citizens of character through air and space education and training in citizenship, community service, responsibility, character and self-discipline.

Cadet Bluy shared that the knowledge and integrity you gain from being a part of the AFJROTC program proves incalculable regardless of which path you take.

"We are out there gaining just as much book knowledge as worldly knowledge, and using it to the full extent," she continued. "Having the ability to take on leadership roles is another huge chunk of the cake. While every other high school student is sitting in class absorbing knowledge, we are given huge responsibilities that help us grow."

According to the AFJROTC Web site, the foundation of the AFJROTC program is the Air Force core values of integrity first, service before self and excellence in all we do. The curriculum emphasizes the Air Force heritage and traditions, the development of flight, applied flight sciences, military aerospace policies and space exploration.

For more information on the AFJROTC program, visit [www.au.af.mil/au/holmcenter/AFJROTC/AboutJROTC.asp](http://www.au.af.mil/au/holmcenter/AFJROTC/AboutJROTC.asp) or for more information on the Lewis Center, visit [www.lewiscenter.org/](http://www.lewiscenter.org/).