



Top: Lt. Col. Dwane "Digger" Carey, USAF (Ret) and former NASA astronauts with cadets. (Photos: Maj. Dave Walker, unless otherwise noted)

Arkansas Wing Conducts Aerospace Education Seminar

by Capt. Garrick St. Pierre, CAP, and Maj. Dave Walker, CAP, Arkansas Wing

LITTLE ROCK, Ark. – On Feb. 27, 2016, the Arkansas Wing Aerospace (AE) Education Directorate hosted "A Day with an Astronaut" Aerospace Workshop designed to bring together CAP members and educators at all levels to promote AE. Lt. Col. Dwane "Digger" Carey, USAF (Ret) and former NASA astronaut was the luncheon keynote speaker; he also hosted several break-out sessions. The workshop was open to all educators throughout Arkansas as well as CAP members.

The day began with a welcome and opening remarks from Arkansas Wing External AE Officer Maj. Keith Hudson, CAP. Attendees split into several different break-out sessions. The 14 university-level attendees, representing graduate technical programs from universities across Arkansas, attended the NASA CubeSAT Launch Initiative and BalloonSAT Session. Discussions were held on how to move forward an Arkansas-based initiative and have nano-satellites launched into space. Col. Carey attended the session as well, offering guidance and suggestions for the program. Maj. Hudson, who holds a doctorate of chemistry, a patent for a chemically-based rocket engine, and is the director for the NASA Arkansas Space Grant Consortium, represented CAP's involvement in the program. The decision was also made to assist Arkansas Wing Civil Air Patrol's cadets and AE Officers to design, build, and launch a nano-satellite experiment through the NASA initiative.

Thirty-four CAP cadets and senior members spent the morning with Maj. Pat Schmidt, the Fort Smith Composite. Sqn. AEO. Using the AEX activity from Civil Air Patrol's *Middle School AEX for Physical Sciences*, the cadets and seniors members spent the morning competing to use various materials to design a parachute that could carry a payload (an egg) softly to Earth. Arkansas Wing Headquarters' fire escapes provided the perfect drop point for the activity. This activity required the participants to critically think about the nature of atmosphere, states of matter and weight vs. lift while trying to complete the project with the lowest expenditure of team "funds." The seniors members lost to one of the cadet groups, who achieved the lowest-cost and highest-performing parachute.



K-12 educators along with AEOs attended a break-out session with Capt. Garrick St. Pierre, Arkansas Wing DAE, to explore the scholastic side of Aerospace Education. Two activities (Making a Hot Air Balloon and Wing Lift – both *Aerospace Dimensions* modules chapter activities) were conducted,

demonstrating various instructional techniques for presenting AE activities as well as academic curriculum alignment with Common Core and NextGen Science standards. Participants also took a couple of “field trips” to the parachute activity to observe student and instructor interaction, activity coordination, and participant engagement in the activity, which was then discussed as a group upon their return to the classroom. AEOs learned how easy it is to present a fun hands-on activity while meeting CAP and academic standards, and educators saw how effectively AE can be used to meet academic standards.

The morning sessions were designed to explore educational opportunities within Arkansas and to demonstrate CAP specific educational materials, programs, and instructional techniques.

Lunch was provided to all the participants through a grant and they listened to Lt. Col. Carey speak about how he went from living in public housing and hopping freight trains to commanding 60-aircraft multi-national strike packages during Operation Desert Storm, test-piloting Air Force F-16 jet fighters beyond the edges of their flight envelopes to eventually piloting NASA’s Space Shuttle at Mach 26 (Space Shuttle Mission STS-109) to repair the Hubble Telescope.

Participants spent the afternoon attending small group Q&A meetings with Lt. Col. Carey and an AEX I (“Let’s Orbit a Satellite”) presentation conducted by Maj. David Walker, Arkansas Wing Internal AEO and Capt. Jerome Grotts, 115th Composite. Sqn. AEO. The afternoon CAP presentations was accompanied by demonstrations from teams involved with NASA’s CubeSAT and BalloonSAT programs. Cadets and senior members were enthusiastic about engaging in a wing-wide activity to design an experiment and build a CUBE satellite for launch. Lt. Col. Carey spent several hours answering questions between a cadet-only Q&A and senior member Q&A. He urged participants to encourage STEM education and for the cadets to take advantage of all educational opportunities while they have a chance. The workshop closed with all participants agreeing to work together to further Aerospace Education in Arkansas. 🇺🇸



Above: Cadet Maj. Zane Phillips releases his entry in the Egg Drop competition. (Photo: Maj. Dave Walker)

Right: (L-R) 42nd (Little Rock) Squadron Commander Maj. John Bowden and USAF Lt. Col. Carey.