



Aerospace Education

November - December 2008

News

Inspiring Students To Excel

Fly A Teacher - Excitement in the Air!

Have a safe and happy holiday season!

Regional Conferences for National Science Teachers Association (NSTA):
Nov. 20-22 - Portland, OR
Dec. 4-6 - Cincinnati, OH
For more info and registration, go to www.nsta.org

IN THIS ISSUE

AEM Spotlight	2
AEO Spotlight	3
SEP Spotlight	4
Curriculum Corner	5
AEO/AEM News & Views	7
Region to Region	8

TOPICS OF INTEREST

AFA Grant Info	7
NCASE 2008	7

Aerospace Education News
Aerospace Education News is the official aerospace education bimonthly publication of the Civil Air Patrol at CAP National Headquarters, Maxwell Air Force Base, Ala.

Judy Stone
Editor

Contributing Writers

Jeff Montgomery
Susan Mallett
Angie St. John
Debbie Dahl

Printing Service
Jacque Pebworth

If you have news, events, or ideas we might consider for the newsletter, please submit them electronically to jstone@cap.gov.

Take a teacher who has an interest in airplanes, a pilot who loves what he/she does, and someone to bring them together and you have the ingredients for a motivating experience. Such was the situation in several CAP wings this year. Over two hundred fifty teachers were flown this year with Alabama and Georgia wings leading the way. Alabama's Director of Aerospace Education (DAE), Major Silvano Wueschner and Georgia's DAE, Major Thomas Smith, along with Captain Jim Flaviani were instrumental in ensuring the success of the program with-in their wings. In both cases, Alabama's Wing Commander, Col Mike Oakman, and Georgia's Wing Commander, Col James Hughes, were very supportive and involved with these missions. These two wings flew over 100 of the Fly A Teacher missions. Many wonderful comments and exceptional compliments were received from those who participated. One educator commented, "It was wonderful! This was a chance to do something that I have always wanted to do but would never have actually tried to do on my own. I learned things about flying that had never occurred to me before."

If you are interested in participating in the Fly A Teacher Program, please contact jstone@capnhq.gov. There is a Point of Contact (POC) in each wing (which is usually the Wing Director of Aerospace Education or someone that has been designated by the Wing Commander to handle this important project). The Fly A Teacher Program can be experienced by any member of CAP who is an educator. Some princi-



Montgomery, AL Principal Liz Hill participated in the AL Fly A Teacher Program with all of her teachers.

pals have had all teachers join CAP and have used the Fly A Teacher membership benefit as a truly unique motivational tool. Local Air Force Association (AFA) Chapters are sponsoring teachers for membership and flights, as well. This experience is one that will not be forgotten by those educators who participate because educators can learn about the airplane and the science that keeps it in the air and take aerial shots of their school and community to share with their students. It is also an ideal way to get schools involved in aerospace. Put teachers in the air and the excitement rises with the altitude!



In the AEM spotlight ... Janice Wright - Boaz, AL

For twenty-three years, Janice Wright has been teaching in Boaz, Alabama. She has an attitude of “the best is yet to come” and keeps an open mind when it comes to new programs and new technologies. According to Ms. Wright, “I get excited when a new technology comes along that could help my students learn or make my job easier. I am fortunate to be in a school system that realizes the importance of technology and encourages its use.”

A veteran teacher with twenty-eight years experience, Ms. Wright currently teaches second grade at Corley Elementary, one of the five schools that make up the Boaz City School System. Ms. Wright received a B.S. degree in Early Childhood Education from Jacksonville State University and continued studying at the University of Alabama where she earned her Masters and EDS degrees. Her credentials and experience make her a valuable asset to the Boaz City School System.

As one of the schools that tested the CAP Junior Cadet School

Enrichment Program (now known as ACE), Ms. Wright was able to use the lessons in Character Education, Leadership Development, Aerospace Education, and Physical Fitness to meet the needs of her students in exciting and motivational ways. Ms. Wright says of the program, “The program doesn’t focus on just the study of space-related topics. It takes into consideration other important aspects of a child’s development, as well. The lessons help develop



characteristics that foster good citizenship and produce future leaders.”

Ms. Wright’s class received the Aerospace Education Excellence (AEX) Award for 2007-2008 and she participated in the CAP Fly A Teacher program, as well. Her students did activities such as making straw rockets and getting involved with NASA’s Lunar Reconnaissance Orbiter “Send Your Name to the Moon” Project.

As a CAP Aerospace Education Member and a valued member of her community, Ms. Wright is able to bring the love of aviation and space to her students and as she says, “After all these years, I’m still learning and having fun. Every day is a new adventure!”



Janice Wright’s class (above) participates in the CAP ACE Program; (right) students test straw rockets; (bottom) Ms. Wright’s class received AEX award certificates



“Once I began teaching the lessons, I really enjoyed it. My students loved it. They were interested in the topics and motivated by the hands-on activities.”

---Janice Wright



In the AEO Spotlight.....

Dr. Sherwood "Woody" Williams

(WI WG Director of Aerospace Education)

Article by: Tom Thomas, WI WG



ON WISCONSIN! With the energy of a solar flare, the intensity of an Olympic athlete and the inspiration of a brilliant sunrise, Wisconsin's own native son, Dr. Sherwood J. (Woody) Williams has taken on aviation as an avocation with the Civil Air Patrol at the forefront. He is Wisconsin's "Top Gun" in aviation education both inside and outside the Wisconsin Wing of the Civil Air Patrol.

A relative late comer in aviation, taking his introductory flight on his 50th birthday in 1988, he became an FAA Flight Examiner, CFII (Certified Flight Instructor) and ATP (Airline Transport Pilot) in single and multi-engine land aircraft. Upon retiring as a life-long educator in 1998, he began his second career in aviation by creating CAVU Aviation, a flight school, at Austin Straubel Field in Green Bay.

Woody began with the Civil Air Patrol in 1999 as a senior member of the 248th Tac Air Shawano Squadron and completed Level 1 training in 2001. He continued upgrading himself by receiving Level 2 in 2004, Level 3 in 2005 and Level 4 in 2006. With his over 30 year background as a high school math teacher, middle school principal and superintendent, Woody has put on his "education hat" and grabbed the



the excitement of youth twinkling in his mind's eye and never looked



(Above) Woody with students ready to fly. (Right) Woody instructing CAP members on AE.

back.

Woody took to Civil Air Patrol with eager anticipation of the challenges in front of him. Without missing a beat, he took over his Squadron's Aerospace Education Officer (AEO) position and went on to become the Squadron Commander. Woody was quickly recognized for his positive

accomplishments at the squadron level and subsequently was promoted to Wing AEO. Here the challenges and associated responsibilities were greatly expanded and he helped the Wisconsin Wing take First Place for the CAP National Aerospace Education Mission Award in 2008. In addition, in 2008, he received the Frank G. Brewer Award for his lifelong interest in aviation, youth and education. Woody hit the runway with takeoff power and has never leveled off.

As great as Woody's accomplishments are in CAP, one shouldn't overlook what else he has been doing in aviation. After acquiring his private pilot certificate in 1989, he went on to get his Instrument Rating in 1990, Commercial in 1991, CFII in 1994, Multiengine in 1999, and ATP in 2002. He currently has accumulated over 5,000 hours of flying time.

Woody spearheaded the AeroScholars program for the Experimental Aircraft Association (EAA). Tom Poberezny, EAA's President knew of Woody's notable education background as a professional teacher in Wisconsin's public school system, and asked Woody if he would set up a distance learning program for the EAA to help high school students work toward getting their private pilot written portion. Woody completed Tom's assignment and much more. His efforts in this endeavor took him to setting up an accredited college degree program using "distance learning" for people wanting to obtain an aeronautical degree. His program was so successful that it was recognized nationally and adopted by Utah Valley State College in Provo, Utah.

Truly one of Civil Air Patrol's shooting stars, he is a man of vision, compassion, insight and wonderment. He has touched many in his career(s) and is not done yet. Through the CAP Fly A Teacher program, EAA's Young Eagle program and his own aviation business, Woody continues today in helping guide many to pursue an active and fulfilling career in aviation.

Throughout his "second" career, Woody has given the gift of flight to a multitude of youth and adults. One thing is certain: Woody has accelerated down the runway, has lifted off, and is climbing under full power with Ceilings and Visibilities Unlimited (CAVU)!

"I wanted to fly since I was a boy watching the WWII aircraft train over the family farm."

---- Woody Williams



CAP's ACE Program - Aerospace Connections in Education



The CAP's new elementary aerospace-themed program, now entitled Aerospace Connections in Education-the ACE Program, has lifted off for the second year of field testing in 29 sites across America: Alabama- 13; Florida- 5; Pennsylvania - 2; Georgia- 2; Maryland- 1; Michigan- 1; Nevada- 1; Puerto Rico- 1; South Carolina- 1; Virginia- 1; and Washington- 1.

A variety of test sites are included in the program: 18 public schools; 3 private schools; 4 parochial schools; 2 home schools; 1 Department of Defense (DoD) school; and 1 cadet squadron accompaniment program. Group demographics include rural, inner city, magnet, and suburban populations of students. One school is a spe-

cial needs school.

Approximately 350 teachers (CAP Aerospace Education Members) and 7,500 students are participating. The grade-level specific program components include 6 lessons each for three sections: Character Education; Aerospace Education; and Physical Fitness. The program is conducted by classroom teachers- CAP AE Members- and is integrated throughout the core curriculum. The community service project component adds an important focus toward CAP's theme: "Citizens Serving the Community."



ACE participants prepare for Lift-Off!

For more information about the CAP ACE Program, contact Angie St. John at astjohn@capnhq.gov.

Florida Wing Hosts CAP ACE Program's National Lift-off



Col Jim Rushing, SER CC, Addresses Audience

Florida Wing Commander, Col Chris Moersch, led the call for the Florida Wing to assist the National Headquarters conduct the 2008 National ACE Lift-off Celebration in Jacksonville, Florida. San Jose Catholic School was the site for the

exciting event for over 700 participants.

SE Region Commander, Col Jim Rushing, was on hand to share congratulations on behalf of the National Commander. "Congratulations, Jacksonville educators and leaders. Your commitment to the development of your young people is quite impressive. Civil Air Patrol salutes you."

Special thanks for the event go to:

- San Jose Catholic School Principal, Jan Magiera
- San Jose ACE Coordinator, Carla Chin
- FL Wing CAP Chief of Staff, Lt Col Valerie Brown
- CAP FL-383 Sq CC Mike Cook
- CAP Lt Dan Woods, pilot for aerial photography and Fly-a-Teacher mission
- CAP National Cadet Color Guard/Drill Team Champions from FL Wing



2008 CAP National Cadet Champion FL Color Guard makes presentation

- CAP Capt Greg Stritch (also AFA and FL STARBASE), rocket launches
- Maj Glen Watman, CAP-USAFR, UPS Pilot



Above: "Cappy", the ACE mascot, arrives in a Jacksonville Sheriff's Department Helicopter
Below: Navy Seahawk Helicopter lands

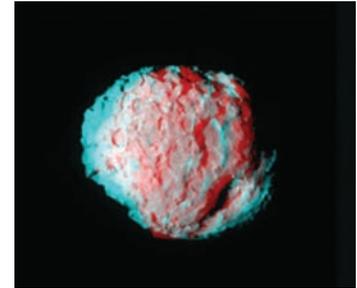


- USN HSL 46 CDR Doug Thompson and LCDR Derek Fleck, Seahawk Helicopter Pilots
- Sgt Shawn McCormick, Jacksonville Sheriff's Department Helicopter Pilot
- AFA Jacksonville Falcon Chapter Larry Belge, President; Ernie Webster, VP; Dewey Painter, CAP VP
- Bishop Kenny High School Color Guard



Strange New Planet.....

(Lesson from Arizona State University Mars K-12 Education Program as adapted from NASA Education Brief "EB-112: How to Explore a Planet")



Objectives:

Students will be engaged in making multi-sensory observations, gathering data, and simulating spacecraft missions.

National Science Standards:

Standard A: Abilities necessary to do scientific inquiry.

Grade Level: 5-8 (Can be used K-12 with adaptations - simple observations vs. more data collection related to current remote sensing data and techniques.)

Materials:

- Plastic balls, modeling clay, Playdoh©, styrofoam© balls, or rounded fruit (cantaloupe, pumpkin, oranges, etc.)
- Vinegar, perfume, or other scents
- Small stickers, sequins, candy, marbles, anything small and interesting
- Cotton balls
- Toothpicks
- Objects that can be pierced with a toothpick to make a moon
- Glue (if needed)
- Towel (to drape over planets)
- Push-pins
- Viewer material (rolled up sheet of paper, paper towel roll, or toilet paper roll)
- 5" by 5" blue cellophane squares (one for each viewer)
- Rubber bands (one for each viewer)
- Masking tape to mark the observation distances
- Student data sheet

Background:

Current scientific instruments are not yet advanced enough to detect smaller, Earth-like planets, but new technology is being developed to improve the search.

Current research techniques

rely on indirect evidence of planets. Indirect searches rely on observations of effects caused by the planet. The majority of planets have been found with the radial velocity, or Doppler, technique, which looks for a back-and-forth shift in the star's spectra due to the gravitational pull of the planet as it orbits the star. Other methods of detection include: the astrometric technique, which looks for a side-to-side wobble against the background stars; the gravitational lensing technique, which looks for a change in the positions of background stars; and the transit technique, which looks for the periodic dimming of the star by the crossing of a planet.

Indirect observation can also help us explore other planets. Using remote sensing to gather data can

give us many characteristics and details for future explorations and give us a more complete picture of our universe.

In this activity, you will simulate several methods to indirectly gather information about your "strange new planet." The first way is from earth; then by conducting a "fly by;" next is by orbiting the planet; and finally (a more direct observation) by landing on the planet. The activity will simulate the fly-by, such as was done by Mariner 4,6 and 7. The orbiting part of the activity simulates the Mariner 9, Viking 1 and 2 Orbiters, and the Mars Global Surveyor. The landing will simulate Viking 1 and 2, the Mars Pathfinder, the Mars Exploration Rovers and the Phoenix Lander.



Strange New Planet....(Cont.)

Procedure:

1. Select a planet.

Choose an object, such as a plastic ball or fruit to act as the planet. Decorate the object with stickers, scents, etc. to make the object interesting to observe. Examples of additions to your planet would be:

- Create clouds by using cotton and glue
- Carve channels
- Attach grapes using toothpicks (to make moons or orbiting satellites)
- Affix small stickers or embed other objects into the planet
- Apply scent sparingly to a small area

(Older students may want to create their own planets and let other teams observe them.)

2. Set-up

Place the object (planet) on a desk in the back of the room. Cover the object with a towel before students arrive. Tell the students that they are going to explore a new planet. Have students construct viewers out of paper towel rolls or other such materials. Place the blue cellophane over the end of the roll and secure with a rubber band. This will simulate earth-bound observations. Divide the class into groups of 4-5 students. Make sure students have a place to record their observations.

3. Pre-Launch Reconnaissance to Landing Mission:

Step 1: Pre-Launch Reconnaissance

Arrange students against the sides of the room by teams. These areas will be referred to as Mission Control. Have one team member face the planet while the others turn away from the planet. Give the person facing the planet the

paper towel roll with the cellophane on the end. Each person with the viewer will have one minute to observe the planet through the viewer. Uncover the planet and time this viewing of the planet. After one minute cover the planet with the towel. This person returns to the group and they have 2-3 minutes to record the observations and write questions about what else they will explore in future missions.

Step 2: The Fly-By

Another team member will conduct a Fly-by of the planet. Instruct this person from each team to walk by the planet keeping a distance of five feet between themselves and the planet. As each team conducts their Fly-by, the other teams must keep their backs to the planet. Teams record their observations as they return to the group. During each Fly-by the teacher will uncover and re-cover the planet.

Step 3: The Orbiter

Another member of the team takes two minutes to orbit (circle) the planet at a distance of two feet. They observe distinguishing features and record their data back at mission control. Teams develop a plan for their landing expedition onto the planet's surface. Plans should include the landing spot and features to be examined.

Step 4: The Lander

Each team approaches their landing site and marks it with a push pin (or masking tape if planet will pop using a pin.) Team members take turns observing the landing site with the viewers used in Step 1. The field of view is kept constant by team members aligning their viewers with the push pin located inside and at

the top of their viewers. Within the field of view, students enact the mission plan. After five minutes, the team returns to "Mission Control" to discuss and record their findings.

Summary and Assessment:

• Ask students why we might prefer to have a progression of observation methods rather than choosing to land first. Confirm correct responses and/or lead students to consider some of the following factors: money, technology, weather, terrain, and/or other dangerous situations.

• Ask students if questions played an important role in the groups collection of data. Explain that questions are important in determining the course of action in missions.

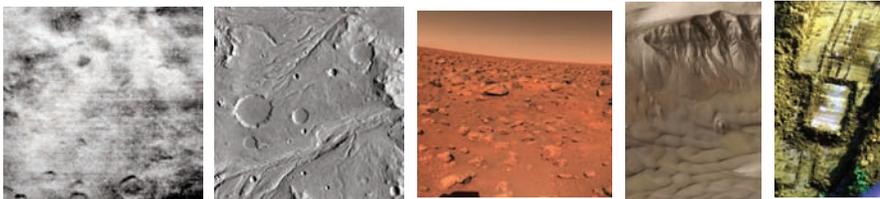
• Ask students what the group at the table may simulate. (a mission control center) Effective communication is vital to creating an accurate picture or an accurate assessment of a situation. Information from different sources can be gathered and evaluated at a central location. Teamwork and effective communication among scientists, engineers, pilots, and others involved in the mission is crucial to the mission's success. Everyone brings something of value to the table, even if it is just the person who always asks questions.

Each individual student should complete a Student Data Sheet. You can get some sample sheets to use by going to http://athena.cornell.edu/educators/lp_05.html or just Google Strange New Planet Student Data Sheet.

Extra Information:

Get color and activity sheets about planets and moons from the U.S. Geological Survey:

<http://astrogeology.usgs.gov/Kids/Activities/ColoringandActivitySheets/>



With each observation of planet surfaces, such as Mars, the details improve. From far left: Mariner 4 photo, Mariner 9 photo, Viking 2 Lander, Mars Exploration Rover photo and Phoenix shows frost in tread impression.



AEO/AEM News and Views



The Air Force Association (AFA)

continues their outstanding support of CAP and aerospace education. The AFA has now contributed over \$250,000 in aerospace grants for our CAP units and our teachers who are promoting aerospace in their squadrons and classrooms. These grants are for \$250, and an application can be found at www.cap.gov/ae. The deadline for this current cycle of grants is December 31 and the grants are for our units who are promoting aerospace. The next Educator Grant cycle has a March 31 deadline.

Additionally, every year the AFA also offers \$250 aerospace grants that are different from the AFA/CAP grants. These grants are also for any teacher promoting aerospace. Our teacher members are eligible for these grants too, regardless if you have received one of our grants or not. These grants are only offered once a year with a deadline of November 15th. Results are announced in January of the next year. For more information about these grants, go to www.afa.org/aef/aid/grants.asp. Historically, our AEMs have been selected for these grants, too.

Announcing the 1st Annual CAP AEM and AEO Awards!!

Watch the CAP website for information on qualifications and forms for submitting worthy Aerospace Education Members and Aerospace Education Officers for consideration. These awards will be presented at the 2009 National Board in San Antonio the first week of September!

NCASE 2008 - Networking and Professional Development Opportunities

The National Conference on Aviation and Space Education (NCASE) provided educators and CAP professionals an opportunity to experience motivating speakers, informational seminars, exciting exhibitors and networking with other like-minded people and organizations. Participants were provided materials and resources that will be useful as they inspire their students and others about aerospace.

Dr. Janice Voss presented a video clip of her experiences in space; Paula Lewis of the Federal Aviation Association (FAA) talked about the wonderful opportunities for future workforce development; Greg Condon introduced many to the wonders of NASA Smart Skies™ (educating students in grades 5-9 in math and careers by use of simulations and problems involving air traffic control); Dr. Bonnie Dunbar discussed her astronaut career and her

awe of holding the Guinness World Record for time aloft for a paper airplane. Add to this line-up over 40 outstanding seminars and over 30 quality exhibitors and you have the making for a very worthwhile professional experience.

There were many prestigious awards also. Dr. Lee Siudzinski was awarded the Dr. Mervin K. Strickler, Jr. Aviation Education Leadership Award; The Crown Circle awardees were Shelia M. Bauer and Kenneth J. Cook. Also in the Crown Circle and awarded the A. Scott Crossfield Aerospace Education Teacher of the Year Awards for 2007 and 2008 were Marcus Petitjean and Chantelle Rose (CAP AEM).

If you have never attended an NCASE, please plan to attend the 2010 conference. Go to www.ncase.info for more information.

current role as President and CEO of The Museum of Flight in Seattle, Washington; Capt Barrington Irving, Jr. told of his struggle of growing up in inner-city Miami and how his success has led to mentoring to other young people in need of direction. He also discussed his historical solo flight around the globe as the first black pilot and youngest person to accomplish this endeavor; and Ken Blackburn shared science and the



Dr. Charlie Rodriguez presents at NCASE.



(Left):
Capt
Barrington
Irving
(Right):
Ken
Blackburn





REGION TO REGION

NORTHEAST REGION

November 21

The Dream Tour is a motivational series created by the Harris Foundation that encourages America's middle school students to find and achieve their potential by encouraging them to go to college and study science, technology, engineering and mathematics. Tour stops at James M. Curley Elementary and Mary Curley Middle School in Boston, Massachusetts.

<http://www.daring2dream.org/en-us/48-aboutthedreamtour.aspx>

December 3-5

Pennsylvania Science Teachers Association (PSTA) Convention will be held at the Hershey Lodge and Convention Center in Hershey, Pennsylvania.

<http://www.pascience.org/conventions.htm>

January 8-10, 2009

The Association for Science Teacher Education (ASTE) will hold the ASTE 2009 International Conference at the Marriott Hartford Downtown in Hartford, Connecticut.

<http://theaste.org/meetings/2009conference/>

MIDDLE EAST REGION

November 13-15

2008 School Science and Mathematics Association (SSMA) will hold its conference at the Sheridan Imperial Hotel in Raleigh-Durham, North Carolina.

<http://www.ssma.org/convention.php>

GREAT LAKES REGION

November 13-15

Illinois Science Teachers Association will hold its annual conference at the Peoria Civic Center and the Hotel Pere Marquette in Peoria, Illinois.

<http://www.ista-il.org/opportunities/conferences>

December 4-6

National Science Teachers Association (NSTA) regional conference will be held in Cincinnati, Ohio.

<http://www.nsta.org/conferences/2008cin/>

December 6-7

National Museum of the US Air Force presents the USAF Band of Flight Holiday concert at Wright-Patterson Air Force Base, Ohio.

<http://www.nationalmuseum.af.mil/news&events/concerts.asp>

SOUTHEAST REGION

November 14-15

Blue Angels Homecoming Air Show will be held at Pensacola Naval Air Station in Pensacola, Florida.

<http://www.naspensacola.navy.mil/mwr/current/airshow/airshow.htm>

November 20-22

Tennessee Science Teachers Association (TSTA) will hold its conference at Sheraton Music City in Nashville, Tennessee.

NORTH CENTRAL REGION

November 18 (3rd Tuesdays)

Saint Louis Science Center offers Homeschool Programs including the Homeschool Segway Meet the Challenge.

<http://www.slsc.org/content.aspx?id=358>

SOUTHWEST REGION

November 5-8

National Association for the Education of Young Children (NAEYC) will hold its annual conference at the Dallas Convention Center in Dallas, Texas.

<http://www.annualconference.naeyc.org/>

November 13-14

Arkansas Curriculum Conference will be held at the Statehouse Convention Center in Little Rock, Arkansas.

<http://www.uark.edu/~k12info/ACC/ACC2008/index.html>

January 11-15, 2009

89th Annual Meeting of the American Meteorological Society will take place in Phoenix, Arizona.

<http://www.ametsoc.org/MEET/annual/index.html>

ROCKY MOUNTAIN REGION

November 20-21

The Colorado Science Conference for Professional Development will be held at the Denver Merchandise Mart in Denver, Colorado.

<http://coloradocast.org/professionaldevelopment.php?page=overview>

PACIFIC REGION

November 20-22

National Science Teachers Association (NSTA) Fall Conference will be held in Portland, Oregon.

<http://www.nsta.org/conferences/2008por>

November 22

Hawaii Science Teachers Association (HaSTA) will hold its fall conference at Honolulu Community College in Honolulu, Hawaii.

<http://www.hasta.us/?p=18>

December 11

The Dream Tour promotes STEM education to middle school students. This part of the tour will be held at John Muir Middle School in Los Angeles, California.

<http://www.daring2dream.org/en-us/48/aboutthedreamtour.aspx>

January 4-8, 2009

American Astronomical Society (AAS) will hold its meeting at the Long Beach Convention and Entertainment Center in Long Beach, California.

<http://aas.org/meetings/aas213>

Special Events

December 1 Deadline!

Applications are available for the 2009 Team America Rocketry Challenge.

<http://www.rocketcontest.org/>