

Up To Date

NASA's Independent Verification & Validation Program
Educator Resource Center Newsletter
Fairmont, West Virginia

Summer 2012

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STEM Camps at the ERC

Thirty-seven students and coaches attended the two Science, Technology, Engineering and Math Camps held at the ERC in June. Teams of students and their coaches received

content knowledge in STEM areas as they became rocket and robotic specialists equipped to return to their home schools and begin STEM Clubs.



Infrared Thermometers were used to investigate surface temperature variations.



Programming the NXT robots to use a variety of sensors was an activity highly rated by the campers.



STEM Camp One poses for a group photo with the remote controlled airplanes flown after completing a unit on aeronautics.



Mmmm...mmn Is there a tilt sensor?



STEM Camp 2, an all girls STEM Camp, poses in front of the atmospheric sounding rocket at IV&V.



Left: A one stage rocket, a two stage rocket and an airfoil design built by campers as they studied rocketry and aeronautics.

Right: At the new rocket launching site next to NASA IV&V's Building 1, campers wire a two stage rocket for launch with the help of Aleksander Marthinussen of the Mid-Atlantic Aerospace Complex.



Scenes from Transit of Venus NASA IV&V July 5, 2012

Earth and Space Science Investigations Camp



Top: Nicole Culp, Fairmont State University's ERC intern, helps visitors create Transit of Venus cookies.

Center: Leading visitors in an activity that explained why the Transit of Venus is a rare occurrence is Josh Revels, IMTS/IV&V librarian intern.

Bottom: Visitors winning the Transit of Venus crossword puzzle challenge are shown with their Extra-Vehicular Activity astronaut prize.

Top: As part of the Elementary GLOBE program, macroinvertebrates were collected, identified and released at locations along Deckers Creek in Morgantown.

Center: Principles of Flight were discovered by experimenting with control surfaces on airplanes.

Bottom: The launching of straw rockets allowed investigation into correct experimental procedures.

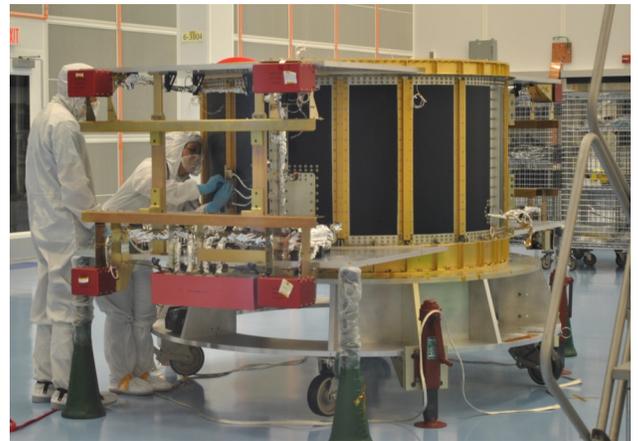
Space Weather Camp



Viewing the sun using iPads, Sunspotters, and Personal Solar Telescopes



Goddard Space Flight Center field trip: group photo at the Space Weather Research Center



Magnetospheric Multiscale probe Clean Room

Below: Space Weather Presenters



Dr. Margie Darrah WVU



Dr. Amy Keese
WVU

Dr. Jeffrey Carver
WVU



Eric Sylvania, Anita Berns, Brandon Miller all from NASA IV&V



Above: Modeling the Magnetospheric Multiscale probe three ways: with LEGOS, with food, and with paper

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The NASA Independent Verification and Validation Program Educator Resource Center's goal is to serve teachers, informal educators, and pre-service teachers to enable them to reach their goals. Through a grant with Fairmont State University, the NASA IV&V Program ERC provides materials, equipment for loan, and professional development workshops for informal and formal educators both at the facility and around the state of West Virginia that reflect NASA's current research and technology.



Links to Student Competitions

First Lego League Robotics:

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

Real World Design Challenge:

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

Team America Rocketry Challenge:

<http://rocketcontest.org/>

Green Aviation Contests:

<http://aero.larc.nasa.gov/competitions.htm>

Quotes of the Month: MARS

Did the Pilgrims on the Mayflower sit around Plymouth Rock waiting for a return trip? They came here to settle. And that's what we should be doing on Mars. When you go to Mars, you need to have made the decision that you're there permanently. The more people we have there, the more it can become a sustaining environment. Except for very rare exceptions, the people who go to Mars shouldn't be coming back. Once you get on the surface, you're there. Buzz Aldrin, *Vanity Fair*, Jul. 2010

Curiosity, the largest and most advanced spacecraft ever sent to another planet, stuck its extraordinary landing Sunday night without a hitch and is poised to begin its pioneering two-year hunt for the building blocks of life — signs that Earth's creatures may not be alone in the universe. Scott Gold, *LA Times* 8/6/2012

Where in WV is the ERC?

May-June Workshops in Red

May-June Equipment Loans in Blue

To schedule a workshop:

Contact the ERC by calling 304-367-8436 or emailing:

pamela.casto@ivv.nasa.gov

To schedule equipment for loan: First check the equipment loan calendar on the ERC website to see if the equipment is available for the dates desired. Then email Nicole Culp who will schedule the dates.

nicole.culp@ivv.nasa.gov

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