Up To Date

NASA IV&V Facility Educator Resource Center Newsletter

March 2010

Volume 1 Issue 3

NASA IV&V Facility ERC

International Space Station News

ISS Expedition 23 crew is preparing for the arrival of new crew members aboard the Soyuz while getting ready for the coming of the STS-131 crew aboard space shuttle Discovery.

After the Soyuz and shuttle arrive, there will be 13 people living in space for over a week. Two Japanese astronauts will be working in space together for the first time – Noguchi and Mission Specialist Naoko Yamazaki. There also will be four female astronauts living in space concurrently for the first time – Caldwell Dyson, Yamazaki and Mission Specialists Dorothy Metcalf-Lindenburger and Stephanie Wilson.

Featured Implementers: Morgantown Learning Academy

Snow and cold did not stop the fearless teachers at Morgantown Learning Academy from building and launching a variety of rockets! Below a teacher at MLA tests her rocket fin design using a stomp bottle launcher.

Above, teachers do a countdown to liftoff for model rockets that were designed and built during the workshop. These rockets included parachutes and payloads that brightened up the winter sky as they floated back to earth.

Important concepts covered in the workshops included the nature of science, Newton's Laws of Motion, data analysis, and how science topics can be taught across the curriculum.

New Telescopes with the Afterschool Universe Kit

Afterschool Universe consists of 12 sessions and begins with an assessment of participants' mental models of the Universe. It then moves into a series of sessions about astronomy basics-size and scale, light and the electromagnetic spectrum, and tools such as telescopes that astronomers use. The kit includes a simple Galilean telescope that learners can make. Now, as a supplemental kit to the program, the ERC is offering a loan kit of 10 student Celestron Telescopes and 1 Educator Celestron NexStar 4 Telescope that will allow the educators and students to view the wonders of the universe studied in the AU program. Training in AU will be May 1 and training on scopes will be offered in May and June. Check the next newsletter for dates.

Inside:

Important Dates:

- April 2...Soyuz Launch to ISS
- April 5... Space Shuttle Launch to ISS
- April 10... Deadline for applications to NASA Aware
- April 25... 20th anniversary of Hubble Space Telescope
- May 1... Afterschool Universe training
- May 1... Telescope workshop

Upcoming Workshops

April

3 Sat. 10 am-4 pm…....Robots and Ratios

8 Thurs. 5-7 pm..EDC: Thermal Protection Systems

17 Sat. 12-1:30 pm……..Clearing up the Confusion on Clouds (Webinar)

24 Sat 10 am-12:30 pm..Energy Series: Hydrogen

24 Sat. 1-4 pm…… .Energy Series: Wind

May

1 Sat. 10 am-4 pm…....Afterschool Universe

1 Sat. 4-6 pm……Telescope Workshop

8 Sat. 12-1:30 pm…....Discover the Universe with Galileo (Webinar)

15 Sat. 10 am-2 pm…….Advanced Rocketry

Our advanced rocketry workshop features a rocketeer from Marshall Space Flight Center! Come and build rockets with us!

WV Teacher Receives NASA Stellar Award by Debra Piecka

Congratulations to NASA*Talk*'s first STELLAR Awards winner, Eileen Poling! Mrs. Poling's submission, *Family Flight Fun*, describes a series of evening rocketry workshops for students and their families. The new NASA Rocket Educator Guide provided the activities for the students and adults. Mrs. Poling, who teaches gifted students at Tucker Valley Elementary-Middle School in Hambleton, WV, receives a $100 cash stipend for winning the STELLAR Award.

Mrs. Poling works to develop exciting and engaging NASA opportunities with her students. Tucker Valley Elementary-Middle School serves almost 600 students in grades K-8 and was selected as a NASA Explorer School in 2005 with Mrs. Poling as the lead teacher. Mrs. Poling graduated from the Indiana University of Pennsylvania in 1974 with a BS in elementary education. She earned her master's degree in elementary education from West Virginia University (WVU) in 1980 and her West Virginia gifted certification from WVU in 1989.

Every summer Mrs. Poling participates in variety of professional development pursuits, including space classes, conferences, and seminars.

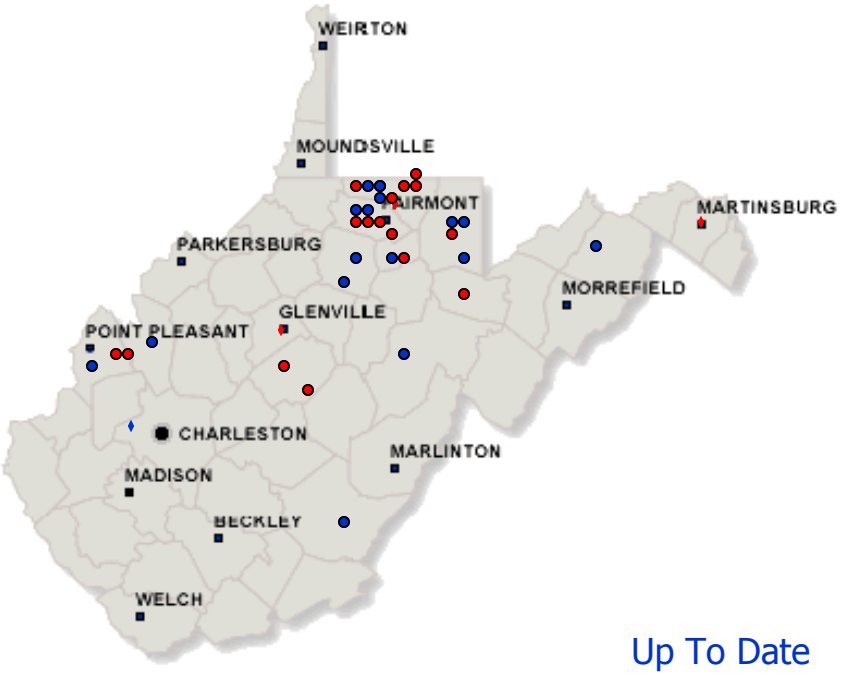
Tucker Valley Elementary-Middle School Principal Joyce Carrico, left, and gifted students teacher Eileen Poling.

Where in WV is the NASA IV&V Facility ERC?

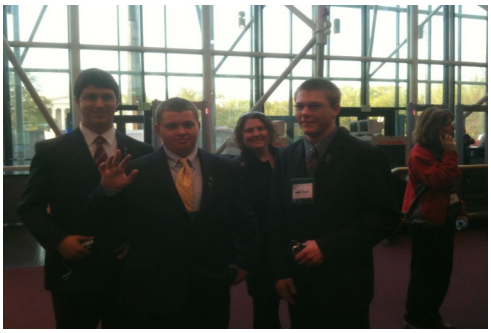
- **March Equipment Loan**
- **March Workshop**

17 equipment loans occurred in March

16 workshops and webinars were held



Real World Design Challenge Team in Washington D.C.



Above: The Air and Space Museum was open after hours exclusively for RWDC.

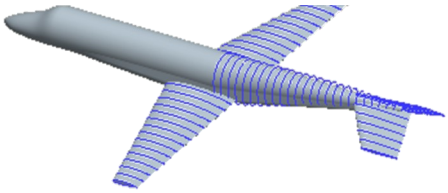
WV's Real World Design Challenge state winners, the Awesome Aeronauts just returned from the National Competition and their all expense paid trip to Washington D.C.

Cabell Midland H.S. sophomores, Ryan Riedel, Cody Legge, Andy Thomas presented their inverted "V" airplane tail fin design to a panel of blue-ribbon judges from the DOD, and government contractors at the National 4-H Conference Center near Washington D.C.

The top three teams from Kansas, Hawaii, and Minnesota then presented their designs and research to a packed house at the National Air and Space Museum. The students had a chance to tour the Smithsonian and many of our nation's most inspiring symbols of democracy.

Educators are encouraged to form teams early in the coming school year to prepare for the 2011 Challenge. For more information contact: Todd Ensign at the ERC. 304-367-8438 or todd.ensign@ivv.nasa.gov

Below, Cody Legge poses in front of the White House.



The WV Awesome Aeronauts Design Entry for RWDC.

Hubble 20th Anniversary

Hubble's launch in 1990 marked the most significant advance in astronomy since Galileo's telescope! Its discoveries have resulted in advanced scientific questions and space exploration technological capabilities. Its four servicing missions have advanced Hubble's capabilities to peer deeper and deeper into the universe. Learn more abut Hubble's fascinating story by participating in the NES Virtual News Event on Wednesday, March 31, 2010 at 10 a.m. EDT celebrating the 20th anniversary of the Hubble Space Telescope. This event will be recorded and available on-demand on the NES Virtual Campus beginning April 1.

Summer Intern Opportunities for Students

To secure its future workforce in communications systems and networks, NASA has realized a great potential to train and inspire future engineers in this area earlier—at high school and college levels.

The goal of the Summer Intern Project (SIP) is to train and educate students in the field of communication systems and networks and ultimately prime them to pursue a space communications career. SIP is a 10-12 week experience where students perform hands-on training with real mission scenarios, gain exposure to powerful communication systems and networks software tools, and design and analyze space communications systems and networks.

During this time students have the opportunity to identify multiple career paths as they work within NASA.

NASA SIP features include independent and team environments, open communication throughout the year with mentors and NASA management, state of the art simulation lab, social and professional networking events, lecture series with NASA experts, tours, and exposure to NASA careers.

This experience is especially beneficial for those interested in electrical engineering, computer science, astronautical engineering, aerospace engineering, applied physics, and systems engineering.

SIP students are encouraged to return for multiple summers!

WV educators are encouraged to pass this information along to their students and encourage them to apply for next summer. NASA also offers internships at many of their other facilities.

For internships and summer experiences for students here at the NASA IV&V Facility in Fairmont contact Jess White at: jess.white@ivv.nasa.gov

To Apply: http://www.nasa.gov/centers/glenn/education/LERCIP_GRC.html

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We're on the web!

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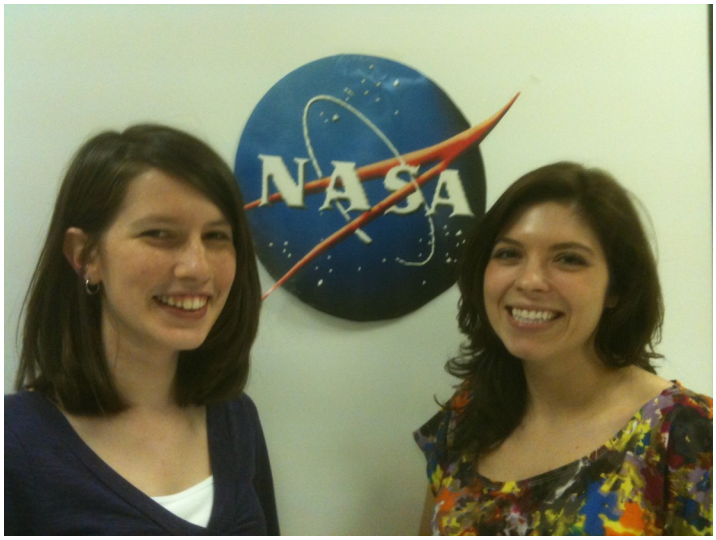
Submit story ideas and pictures to pamela.casto@ivv.nasa.gov

The NASA Independent Verification and Validation Facility 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 Facility ERC provides materials, equipment for loan, and professional development workshops both at the facility and around the state of West Virginia (scheduled upon request) for educators that reflect NASA's current research and technology.

Meet the Interns : Amy Friend and Amy Phillips



The Educator Resource Center currently has college interns assisting with the center's mission to serve WV educators. These students are funded from a variety of sources and work a flexible schedule. This month features Amy Friend and Amy Phillips.

Amy Friend, a Fairmont State University senior, serves as the NASA IV&V librarian and ERC initiative support person. This involves managing a lot of data for reports and grants and assisting educators in scheduling workshops and equipment loans. Amy also conducts tours of NASA IV&V, helps with student events, and runs the shuttle simulator. Amy is doing student teaching in elementary education this semester in addition to working at the ERC, planning her graduation for this May, and for her wedding next summer!

Amy Phillips, a Fairmont State University junior, majoring in secondary education, serves as an RA in the dorms, and manages the ERC's multi-million dollar loan equipment. Kits such as Afterschool Universe, GPS, Rocketry, Starlab, and more are refurbished, stocked with each teacher's requests, have batteries charged or whatever is needed done and readied for the next borrower. Amy P. also prepares the teacher packets for workshops, and assists with ERC and outreach events such as judging science fairs. Amy is looking forward to traveling to Costa Rica this summer with Dr. Deb Hemlers' Fairmont State University class.

Next month's Meet the Interns will feature Derek Grubb and Brad Wasserman.