

NASA Marshall Space Flight Center FY 2010 Visitor Information Center Annual Report

International Space Station (ISS) Interactive Exhibit

Education Grant

Administered by the U. S. Space and Rocket Center (USSRC)

USSRC/Jennifer Crozier

(256) 837-3400

PROJECT DESCRIPTION:

The USSRC worked with the Smithsonian's National Air and Space Museum to re-create a popular interactive exhibit focused on the ISS for the USSRC museum floor. The USSRC was able to obtain it for the actual cost of hardware and setup by the software developer.

Museum guests of all ages can build an ISS module at one of six locations around the 40X60-inch interactive table. Using the touch-table technology, the participants will establish a budget and create a space station module-by-module. Each module choice will explain the purpose, the science, and other living and working-in-space functions related to that module. Participants are reminded to include different life-sustaining elements. Upon completion of their project, they may provide an email address to receive a copy of their work.

PROJECT GOALS:

To provide audiences with engaging, interactive experiences containing relevant space content to increase interest in aerospace-related science, technology, engineering and mathematics (STEM) activities and projects.

PROJECT BENEFIT TO OUTCOME:

Outcome 3.0: Build strategic partnerships and linkages with STEM formal and informal education providers that promote STEM literacy and awareness of NASA's mission.

Measure 3.1.2: Increase in the use of NASA or NASA affiliate produced informal educational resources or tools in programs or exhibits serving public audiences.

PROJECT ACCOMPLISHMENTS:

The exhibit was delivered and installed in October 2010 on the museum floor of the USSRC. The software developer is working technical issues. The USSRC expects the ISS exhibit to be fully operational by the end of February 2011.

IMPROVEMENTS:

The exhibit is currently located in an area of the museum with no other ISS artifacts. By spring of 2011, the USSRC will create a learning environment around the interactive exhibit that provides facts and information on the ISS.

PROJECT CONTRIBUTIONS TO PART MEASURES:

Through Objective 3.1, resources and tools are provided that use NASA’s unique content to connect NASA’s mission to self-directed learners (museum guests and school groups) to attract individuals to STEM careers. The USSRC expects that approximately 300,000 of 540,000 visitors will experience the exhibit while at the museum as part of a family or school group visit. It will also be included in SPACE CAMP programs for teams as timing allows within the existing International Space Station activity.

PROJECT PARTNERS:

The USSRC has partnered with the Smithsonian’s National Air and Space Museum. The USSRC will continue collaboration with the NASA Marshall Space Flight Center (MSFC) as the accompanying artifacts and graphics to supplement the interactive experience are collected and displayed.

Native American Heritage Day

Education Grant

Administered by the U.S. Space and Rocket Center (USSRC)

USSRC/Kat Balch

(256) 837-3400

PROJECT DESCRIPTION:

USSRC, in cooperation with NASA MSFC, hosted 330 area schoolchildren from underprivileged/underserved schools in North Alabama for Native American Heritage Day on November 4, 2010. MSFC Employees with a Native American heritage talked about their careers and Native American Culture. Astronaut John Herrington, who is a Native American, discussed his background as a child and the reality of his dream of becoming an Astronaut.

PROJECT GOALS:

The Native American Heritage Day helps to motivate students with Native American backgrounds to consider advanced degrees and careers in STEM fields by participating in activities and experiences outlining NASA’s overall mission and emphasizing the role Native Americans have played in the past and how they currently support and will continue to support NASA missions in the future.

PROJECT BENEFIT TO OUTCOME:

Outcome 3.0: Build strategic partnerships and linkages with STEM formal and informal education providers that promote STEM literacy and awareness of NASA’s mission.

Measure 3.1.2: Increase the use of NASA or NASA affiliate-produced informal education resources or tools in programs or exhibits serving public audiences.

PROJECT ACCOMPLISHMENTS:

The event was attended by 330 students, 40 chaperones and 10 MSFC employees. The students represented pre-K and third-fifth grades from local Title 1 schools.

- Students participated in guided tours of the USSRC Davidson Center for Space Exploration to increase their knowledge about the history of NASA.
- Through interactions with “Oscar the Robot,” students learned about NASA’s missions and how they contribute to our day-to-day lives as well as the collaboration between the USSRC and

NASA in providing information to the public about the relationship of science exploration and Native Americans.

- Seven stations were set up for the students to learn more about Native American Culture and NASA. Three of the seven stations included NASA content. Students launched a fizzy tablet rocket while learning about the Saturn V Rocket, watched a demonstration on the importance of wearing a space suit during the Apollo and Space Shuttle eras, and participated in a group discussion led by astronaut John Herrington. Students were also provided time to experience the museum simulators and tour Rocket Park.
- Educators were provided a packet of NASA education materials as well as Tipi kits, with math component incorporated, to construct with their students.

IMPROVEMENTS:

This was the first year the program was conducted as a partnership between the USSRC and MSFC. In the future, a USSRC guide will accompany each group to ensure they stay on schedule. Additional improvements include keeping the stations within close proximity to each other and recruiting efforts will be added to encourage more MSFC employees to participate.

PROJECT CONTRIBUTIONS TO PART MEASURES:

The event was attended by 330 students, 40 chaperones and 10 MSFC employees. The students represented pre-K and third-fifth grades from local Title 1 schools.

PROJECT PARTNERS:

The USSRC worked with the MSFC Academic Affairs in Office of Human Capital and the Office of Diversity and Equal Opportunity to conduct this 1-day event.

Native American Research Laboratories Collaborative

Education Grant NNX07AT63A

Administered by the U.S. Space and Rocket Center (USSRC)

WILL Technology, Inc. /Durlean Bradford

(256) 961-1335

PROJECT DESCRIPTION:

The University of Montana Native American Research Laboratories in collaboration with the MSFC Academic Affairs in the Office of Human Capital hosted a group of Native American students the week of August 9-13, 2010. The underrepresented or economically-disadvantaged students were engaged in a summer research internship program at the University of Montana before traveling to MSFC. The four high school and four undergraduate students participated in a 3-day Pathfinder SPACE CAMP at the USSRC, toured MSFC facilities and laboratories, and participated in hands-on activities and tours to introduce them to ongoing engineering and research activities and other space-related sciences at MSFC.

PROJECT GOALS:

Engage student interns in ongoing engineering and research activities at MSFC to motivate them to consider careers and advanced degrees in the STEM fields.

PROJECT BENEFIT TO OUTCOME:

Outcome 1.0: Contribute to the development of the STEM workforce in disciplines needed to achieve NASA’s strategic goals, through a portfolio of investments.

Measure 1.2.1 and 1.3.1: Number of under-represented and under-served students in participating in NASA higher education programs.

Outcome 2.0: Attract and retain students in STEM disciplines through a progression of educational opportunities for students, teachers and faculty.

Measure 2.4.1: Number of elementary and secondary student participants in NASA instructional and enrichment activities.

PROJECT ACCOMPLISHMENTS:

- The students visited the MSFC Flight Robotics Lab, Virtual Design Lab/Integrated Performance Analysis Combustion Research Facility, ISS Environmental Cleaning and Life Support System (ECLSS), and National Center for Advanced Manufacturing (NCAM). They learned about laboratory research and technology tools.
- Students visited the HudsonAlpha Institute for Biotechnology in Huntsville, AL and participated in a hands-on DNA activity.
- Students participated in the USSRC Pathfinder program with 3 days of activities exploring the history, present and future of human space flight and aviation; experienced a simulated Shuttle mission; and participated in a discussion on space history and astronaut training. They also took part in the Aviation program which encompassed land survival techniques, air-to-air simulated missions, and a “Top Gun” competition.

PROJECT CONTRIBUTIONS TO PART MEASURES:

Eight underserved students (four K-12 and four undergraduate) participated in the Native American Research Laboratories Collaborative. Based on the responses to a follow-up survey, 100 percent of the participants agreed or strongly agreed that the experience helped build their interest, skills, and knowledge in STEM.

PROJECT PARTNERS:

The MSFC Academic Affairs in the Office of Human Capital collaborated with the University of Montana, the USSRC, and the Hudson-Alpha Institute for this experience.

Educator Resource Center (ERC)

Contract: WILL Technology, Inc. (WTI) NNM07AA77C
WTI/Karen Kelley
(256) 544-3922

PROJECT DESCRIPTION:

This cross-cutting element will provide contractor support to oversee the implementation of each activity proposed and be responsible for ensuring evaluation data is planned/collected and aggregated. Work will be done under the direction of the MSFC Education Technology and Products Lead in the MSFC Academic Affairs Office. Additionally, this item will support the continued development of USSRC and ERC staff in the K-12 and informal 6-state service region. There are several opportunities annually that provide invaluable experiences for ERC staff to become knowledgeable and updated on space

exploration content. In order for our local workshops to have accurate information and for our staff to update content for our support materials, we feel it absolutely necessary to provide our staff with appropriate professional development experiences. By enhancing their knowledge, the content they deliver will be of even greater value to our workshop attendees. This includes attendance at National conferences and training related to Hubble, working on the moon (spacesuits, nutrition, etc.), Lunar missions, and others.

PROJECT GOALS:

- Provide professional development resources and training opportunities for MSFC’s ERC Network related to NASA content and innovative teaching methodologies through use of technology in workshops and classrooms.
- Identify appropriate conferences and conventions to attend and present educational sessions and workshops relating to ERC materials and services.
- Reproduce and distribute NASA’s aerospace audiovisual and multimedia educational materials to K-16 educators.
- Identify appropriate NASA educational publications with audiovisual and multimedia products to enhance K-16 educators' use of Earth Science, Space Science and other aerospace media.
- Provide personal assistance to K-16 educators with information, resources, technical support and referrals for NASA programs and services as it relates to STEM in aerospace products.
- Partner and collaborate with the NASA to assure that a broader number of educators in minority and underrepresented schools have access to NASA audiovisual and multimedia aerospace products and NASA programs.
- Facilitate collaboration with universities, industry, professional educational organizations, and state departments of education to assure that a broader number of educators have access to NASA audiovisual and multimedia aerospace products.
- Demonstrate the use of NASA educational materials and technology to pre-service, formal and informal educators through training workshops provided via distance learning, on-site and off-site sessions.
- Prepare and submit Weekly Activity Reports and 90-day reports

PROJECT BENEFIT TO OUTCOME:

Outcome 2.0: Attract and retain students in STEM disciplines through a progression of educational opportunities for students, teachers and faculty.

Measure 2.1.1: Percentage of elementary and secondary educators who obtain NASA content-based education resources or participate in short-duration NASA education activities and use NASA resources in their classroom instruction.

- Distribute NASA’s aerospace audiovisual and multimedia educational materials to K-16 educators nationally and internationally.
- Identify appropriate NASA educational publications with audiovisual and multimedia products to enhance K-16 educator’s use of Earth Science, Space Science and other aerospace media.
- Provide personal assistance to K-16 educators with information, resources, technical support and referrals for NASA programs and services as it relates to STEM in aerospace products.
- Partner and collaborate with other NASA education projects to assure that a greater number of educators in minority and underrepresented schools have access to NASA audiovisual and multimedia aerospace products and NASA programs.
- Facilitate collaboration with universities, industry, professional educational organizations, Department of Education, National Science Foundation, and the NASA education projects to

assure that a broader number of educators have access to NASA audiovisual and multimedia aerospace products.

- Demonstrate the use of NASA educational materials and technology to pre-service, formal and informal educators through training workshops provided via distance learning, on-site and off-site sessions.

PROJECT ACCOMPLISHMENTS:

In FY10, the MSFC ERC served 1,578 K-12 educators, which includes pre-service educators. Eight hundred and eight (808) visiting educators received information packets highlighting available NASA resources. The ERC education specialists conducted a total of 70 workshops reaching 770 educators. Of these, 26 workshops provided a brief overview of NASA resources and opportunities for the 545 participants in the USSRC SPACE ACADEMY for Educators program, including the National and International Teachers of the Year. Of the remaining 44 workshops, eight were scheduled upon request for visiting educator groups, and 36 were regularly scheduled sessions for educators who receive the MSFC ERC opportunities calendar through electronic distribution, for a total of 225 participants. In addition, nine FIRST LEGO League (FLL) coaches participated in weekly informal networking sessions in the early fall called "FLL Fridays". Coordinated by the MSFC ERC staff, these networking sessions also provided access to MSFC ERC resources.

PROJECT CONTRIBUTIONS TO PART MEASURES:

In FY10, the MSFC ERC served 1,578 K-12 educators, which includes pre-service educators. Eight hundred and eight (808) visiting educators received information packets highlighting available NASA resources. The ERC education specialists conducted a total of 70 workshops reaching a total of 770 educators. The percentage of elementary and secondary educators using NASA content-based STEM resources in the classroom was 85.7 percent. This percentage is based on the number of replies to a follow-up survey where 12 of 14 participants reported they are in fact using the NASA materials in the classroom.

IMPROVEMENTS:

- The MSFC ERC education specialists and USSRC staff continue to look for collaborative opportunities to share information and to take advantage of the audiences that visit the USSRC facility. In the fall of 2010, the ERC began providing educator packets to teachers whose classes participate in the USSRC's Ultimate Field Trip program. The USSRC and SPACE CAMP sales staff was provided with electronic copies of the ERC informational flyer and workshop calendar for distribution to educators who purchase group CAMP programs for their students.
- NASA educational resources have been color coded by grade level and a new poster display stand, resulting in improved functionality for visiting educators.
- The offices for two team members of NASA's Aerospace Education Services Project (AESP) were relocated to the ERC, providing improved information sharing and collaboration for this project, the ERC, and NASA Digital Learning Network (DLN) staff.

PROJECT PARTNERS:

The ERC facility has accommodated activities for a number of education-related and MSFC groups, which have benefited from using the centrally located facility and equipment. These included:

- A local home school-based Team America Rocketry Challenge (TARC) team, which is coached by an MSFC employee, holds bimonthly meetings and rocket building sessions in the ERC classroom.

- The National Community College Aerospace Scholars program, managed at Johnson Space Center, collaborated with MSFC Higher Education team to conduct a 3-day pilot session with the support of the ERC. Twenty-five (25) students worked with MSFC mentors to design, build, test, and compete robotic explorers, using ERC laptop computers and printers installed by ERC's Information Technology (IT) support contractor.
- Training workshops for the MSFC-led, 2-day Pre-Service Teacher Institute (PSTI) were held in the ERC, and utilized videoconferencing equipment to participate in a distance-learning workshop conducted by NASA-sponsored Classroom of the Future.
- The USSRC and ERC staff coordinated a 30-minute overview of NASA resources and opportunities conducted by ERC staff for each team of participants in SPACE ACADEMY for Educators sessions this summer. Participants included those in Boeing and Honeywell-sponsored sessions for educators, the US and International Teachers of the Year, four public sessions, and a grant-funded group from Kentucky, for a total of 26 workshops with 545 participants. Each participant received two posters and grade-appropriate educator guides.

Digital Learning Network (DLN)

Cooperative Agreement: Oklahoma State University (OSU) NNX10AJ63A
 OSU/Scott Anderson
 (256) 544-5881

PROJECT DESCRIPTION:

NASA's DLN began in the spring of 2003 with three sites and expanded during the following three years to include all ten NASA field centers. The DLN presents videoconferences and webcasts that feature NASA-related STEM instruction.

- Fosters the effective use of interactive instructional technologies through the delivery of NASA educational content for the benefit of its students and educators.
- Promotes collaborative activities among its member sites in order to optimize learning experiences for its students and educators.
- Encourages open communication among its member sites so that expectations, limitations, strengths, and weaknesses can be objectively addressed for mutual improvement and positive development.
- Provides timely responses to internal and external inquiries about technical issues, content development and delivery, and event scheduling.
- Encourages innovation and experimentation by its member sites with the expectation that instructional integrity is maintained and NASA educational goals and standards are upheld.
- Strives to reach targeted populations associated with the NASA Explorer Schools Program and other NASA distance learning initiatives that target underserved populations while providing access to appropriately equipped members of the general education community.
- Participates in the development of an agency-wide infrastructure that makes use of existing and emerging interactive instructional technologies.
- Contributes to the professional development of internal and external educators through distance learning-based events.

The DLN at MSFC is located in the ERC on the grounds of the USSRC and is staffed through a NASA cooperative agreement with Oklahoma State University.

PROJECT GOALS:

The goal of NASA's DLN is to enhance NASA's capability to deliver unique content by linking customers with one or more NASA Centers and broader audiences in an integrated fashion. This coordinated DLN leverages NASA's unique content, facilities, and personnel so that we can provide students and educators at the precollege and university levels across the nation and around the world with unique experiences. Learners at all levels have the opportunity to interact directly with NASA engineers, scientists, and education specialists to gain a new appreciation for the importance of STEM education.

PROJECT BENEFIT TO OUTCOME:

Outcome 2.0: Attract and retain students in STEM disciplines through a progression of educational opportunities for students, teachers and faculty.

Measure 2.3.1: Percentage of elementary and secondary educators who obtain NASA content-based education resources or participate in short duration NASA education activities and use NASA resources in their classroom instruction.

Measure 2.4.1: Number of elementary and secondary student participants in NASA instructional and enrichment activities.

PROJECT ACCOMPLISHMENTS:

The NASA DLN has extended NASA's technology-based, educational efforts in a very instructionally viable and cost-effective way.

Total number of events conducted in FY10 numbered 329, an increase of 70% over the 231 events provided in FY09.

- Conducted several special-event videoconferences and webcasts featuring NASA scientists and engineers speaking to students about STEM careers.
- Presented at United States Distance Learning Association (USDLA) annual conference.
- Received the USDLA Excellence in Teaching award
- Installed a videoconferencing system in the ERC that allows students to participate in on-site videoconferences at the USSRC.
- Installed a videoconferencing system that is being used by USSRC education staff and MSFC education staff for presentations.
- The DLN at MSFC has partnered with several schools supporting NASA-themed education weeks (e.g. STEM Careers Week, Space Week)

PROJECT CONTRIBUTIONS TO PART MEASURES:

The DLN provides a cost-effective method of delivering NASA-related instructional content via distance learning technologies. As an Outcome 2, K-12 STEM initiative, it extends NASA's reach by connecting directly with students and teachers in formal and informal learning environments. Using its primary delivery technology, videoconferencing, the DLN exposes participants to a variety of STEM concepts by the use of real-time interactions with NASA personnel. Its secondary delivery technology, webcasting, extends programming for students and teachers to watch presentations on their desktops. A certain degree of interactivity is provided during webcasts using email for participants to pose questions to the presenters. The DLN has grown an average of 25% each year since it began in 2003. As more schools turn distance learning alternatives, future growth is anticipated. Videoconferencing has penetrated 30% of the K-12 user base with an obvious potential for continued growth.

Through Outcome 2.3.1, the percentage of teachers who used pre-activities before they completed DLN

events was measured. The DLN Coordinator queried the teachers prior to the beginning of the events when every event had a pre-activity. Response was 47% of the teachers used the pre-activities before the DLN event.

Through Outcome 2.4.1, the number of students participating in DLN events as indicated by teachers at the end of each event and updated when the event is closed out in the system was measured. An automated data collection system captured daily activity, compiled the data, and checked for accuracy during the event close out process performed by DLN Coordinators. Upon close out of completed events, the number of students participating in FY10 is 11,363, an increase of 5% over the FY09 total of 10,860.

IMPROVEMENTS:

The DLN continues to grow in number of events delivered and the number of students and teachers served. The NASA Education Coordinating Committee (ECC) established the DLN as an agency infrastructure, and the project was renamed an activity and placed in the NASA Learning Environments and Research Network (LEARN) Project. Improvements centered around subsequent realignment of the DLN with other e-Education activities and balancing out delivery options of selected modules among the sites. Website operations and efficiencies were also addressed to handle the increasing interest in and use of the DLN.

- Installed a videoconferencing system in the ERC that allows for students to participate in on-site videoconferences at the USSRC
- Installed a videoconferencing system that is being used by USSRC education staff and MSFC education specialists for presentations. This studio became fully operational on September 20th and served as the main studio in September and October while the DLN main studio was being upgraded. There were approximately 50 shows during this time. The new lab space was used four times by the USSRC to present to area schools as part of a professional development day. The teachers were able to experience the technology and learn more about the use in their classrooms.
- Trained education staff from USSRC on using the videoconferencing system.

PROJECT PARTNERS:

- The DLN worked with the Classroom of the Future (COTF) to set up and use the EdTech Collaborative as a mean of exploring the potential for collaborative communications among the various DLN sites.
- The DLN has partnered with the education department at the USSRC in developing and presenting videoconferencing modules.
- The DLN has partnered with schools and organizations supporting space-themed education weeks (e.g. STEM Careers Week, Space Weeks, Aerospace Education Weeks, among others).

Mission Center Complex (MCC) Upgrades

Education Grant

Administered by the U.S. Space and Rocket Center

USSRC/Sarah Hubbard

(256) 837-3400

PROJECT DESCRIPTION:

SPACE CAMP has focused on low earth orbit missions and activities for the past 28 years. The upgrade to the MCC is called *New Mission* and will focus on exciting students and educators about lunar activities with a look toward heading to Mars.

PROJECT GOALS:

- Enhance hydroponics activities in the three existing modules on the MCC.
- Purchase a Lunar lander simulator to serve as a spaceship.
- Create a Lunar terrain surface for the students to conduct Extra Vehicular Activities (EVA) and Lunar scenarios in a realistic environment.
- Design a Zero G wall for a Lunar-themed EVA.
- Design and purchase software for the capsule and lander simulators.
- Reposition and renovate an existing orbiter to serve as a lunar rover simulator.

PROJECT BENEFIT TO OUTCOME:

Outcome 3.0: Build strategic partnerships and linkages with STEM formal and informal education providers that promote STEM literacy and awareness of NASA’s mission.

Measure 3.1.2: Increase in the use of NASA or NASA affiliate-produced informal educational resources or tools in programs or exhibits serving public audiences.

PROJECT ACCOMPLISHMENTS:

- Purchased hydroponics units for three existing Space Stations; added a seed growth chamber experiment similar to the one used on the STS-118 flight.
- Purchased a Lunar lander.
- Designed and built a Micro G Wall for Lunar-themed EVA activities.
- Worked on graphics for mission software to support mission operations.
- Designed and created overlays for the Lunar rover simulator.

PROJECT CONTRIBUTIONS TO PART MEASURES:

Through Objective 3.1, these upgrades will create a dual Lunar surface, capsule, and lander experience for SPACE CAMP attendees. The *New Mission* experience will be a 2-hour simulation that will accommodate 16 participants at a time.

For summer 2011, the *New Mission* will start with the Space Academy - Space Track program for participants in grades 6-8. For 2011, the Space Track capacity will be 64 students out of the 128 Space Academy openings each week. Select weeks of the Space Academy for Educator Program will also participate in the New Mission. Approximately 200 educators will participate in the summer of 2011.

As new aspects of the mission scenario are added, programs for grades 4-6 and 9-12 will be included.

IMPROVEMENTS:

This experience for SPACE CAMP participants is the second phase of a larger plan to re-configure the entire MCC at SPACE CAMP to support lunar related simulated missions. The re-themed *New Mission* will both educate and excite students and educators from around the country on the future of NASA and returning to the moon and Mars.

PROJECT PARTNERS:

The partners for this project are the contractors for the software and simulation design and construction, Binary Star and Wonder Works. The Advanced Concepts Office at MSFC has assisted in the development of ideas.

ADDITIONAL PARTNERSHIPS WITH NASA MSFC

As the Official Visitor Center for MSFC, the USSRC partnered with the MSFC Academic Affairs Office in the Office of Human Capital on the following activities:

- **NASA Student Launch Projects**
The NASA Student Launch Projects hosted approximately 300 middle school, high school and college students, teachers and mentors during launch week activities. As part of the launch week activities, the participants were provided free admission to visit and tour the USSRC. ATK Aerospace Systems, the NASA Student Launch Projects corporate sponsor, hosted a banquet at the USSRC for the participants and their guests. Launch week activities were held April 15-17, 2010.
- **NASA Great Moon Buggy Race- held annually at the USSRC**
The 17th NASA Great Moonbuggy Race was held at the USSRC, April 9-10, 2010 with approximately 925 high school and college students in attendance. As a part of the 2-day event, the participants were provided free admission to visit and tour the USSRC.
- **Silver Snoopy Awards**
Events were held on February 18th, July 13th, August 24th, and September 21st. Each ceremony recognized outstanding MSFC employees. On average, 350 employees and their families attended.
- **NASA Academy**
College interns for the summer participate in a joint education project that benefits SPACE CAMP and local students. The Academies are intensive educational programs emphasizing group activities, teamwork, research, and creativity. The curriculum balances direct contact with science and engineering Research and Development, with an awareness of the managerial, political, financial, social, and human issues faced by aerospace professionals. Included are seminars, informal discussions, evening lectures, supervised research, visits to other NASA Centers and facilities, group project/s, tours, posters/presentations, and assessment. While most weekends are filled with group activities, team building, and off-site trips, one free weekend without activities is scheduled. The Academies have separate focus areas of leadership (NASA Academy), robotics, and propulsion.

A 3-day mini-camp was held June 4-6, 2010, at the USSRC to promote bonding and team-building through mission experiences. Thirty-six (36) participants from the three academies participated in the event.
- **Hubble Anniversary and IMAX event**
The premiere of the Hubble IMAX movie on March 18, 2010 brought in approximately 200 people. The keynote address was provided by Astronaut Story Musgrave, who worked on Hubble's first servicing mission; James H. Crocker, who led the team that readied the science ground system for operation of the Hubble Space Telescope as head of the Space Telescope Science Institute; and Jim Odom, Hubble Project Manager at MSFC. Several key engineers on Hubble were also in attendance.

- Yuri Night Event

This event, held April 10, 2010, was organized by the Court Appointed Juvenile Advocate (CAJA) friends. It was held at the USSRC as part of the worldwide event. There were 400 attendees and speakers including mayors, former astronauts, and retired NASA engineers.

- National Teacher of the Year

The 2010 International Space Camp, held July 20-24, 2010, was attended by 70 teachers from 16 countries. The US teachers represented 46 U.S. states and territories, as well as the District of Columbia.

The teachers spent six days listening to guest speakers and participating in over 45 hours of hands-on activities, including astronaut training simulations and two Space Shuttle mission simulations. The speakers included astronauts Hoot Gibson and Story Musgrave, author Homer Hickam, a speaker from the MSFC Lunar Crater Observation and Sensing Satellite (LCROSS) office, and Grace Corrigan, author and mother of astronaut Christa McAuliffe.

- National Space Club Dinner

The annual event was held at the USSRC October 27, 2010. Seven hundred seventy-two (772) people attended. Awards were presented and a keynote was provided by Gary Payton, former astronaut and current Deputy Under Secretary of the Air Force for Space Programs.

- Girl Scout Event

The annual Girl Scout event held November 12-13, 2010, was attended by 186 Girl Scouts and 70 adults from the Greater North Alabama Girl Scout Council. The event was spread over 2 days, and included a career Day activity held at MSFC for girls grades seven and up on day one and hands-on activities at the USSRC for all Girl Scouts of all ages on day two.

Career Day, held on November 12th, was attended by 25 girls. The day started with a tour and welcome by the Deputy Director of the MSFC Office of Human Capital and comments and brief Center overview by a member of the Office of Strategic Analysis and Communication (OSAC). Then the girls were divided in two groups and had the opportunity to talk with eleven female engineers and scientist and learn firsthand about their work in the aerospace industry.

Friday night the Scouts and adults spent the night in the Saturn V hall, under the Saturn V Rocket and visit the interactive exhibits.

On Saturday, the Scouts rotated among four different activities and viewed a live, audience-interactive presentation on Strange Science. The principles of sound waves, chemical reactions, and other aspects of shuttle flight were explained in this presentation. The hands-on activities focused on STEM and promoted cooperative learning. Forty scouts in the seventh grade and above participated in a Rocket Workshop, where they built and launched engine rockets.