

NASA-SPONSORED CENTRAL OPERATION OF RESOURCES  
FOR EDUCATORS (CORE)

Administered by Lorain County Joint Vocational School

NASA Cooperative Agreement NNX08AC13A

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### PROJECT DESCRIPTION

The Central Operation of Resources for Educators (CORE), operated through a cooperative agreement with Lorain County Joint Vocational School, serves as the worldwide distribution center for NASA-produced multimedia educational materials. CORE also supports the state-based NASA Educator Resource Center Network (ERCN) with materials and training to assist the Educator Resource Center (ERC) staff in better serving educators within their region.

CORE regularly communicates with the ERCN concerning required monthly reporting, internal professional development opportunities, and the availability of new products and materials. The ERCN includes more than 60 state-based sites located at universities, museums, and science centers. CORE also demonstrates applications of science, technology, engineering, and mathematics (STEM) and related content areas by providing curriculum support materials and opportunities for educators and students.

### PROJECT GOALS

CORE directly supports the NASA Education Strategic Coordination Framework, specifically NASA Education Outcome 2: Attract and retain students in STEM disciplines through a progression of educational opportunities for students, teachers, and faculty. CORE supports this outcome through the following goals and actions:

Goal: Enhance the teaching skills of formal and informal educators in STEM content areas. Actions taken to support this goal include:

- Supporting the NASA Educator Resource Center (ERC) Network in the provision and use of STEM education resources by providing professional

development resources and training opportunities for NASA's ERCN using NASA content and innovative teaching methodologies.

- Served as a point of contact on mandatory Section 508 compliance of educational materials for the NASA ERCN.
- Hosted a biennial ERC Workshop for all members of the ERCN.

Goal: Demonstrate applications of STEM and related content by providing curriculum support materials and STEM engagement opportunities for educators and students.

Actions taken to support this goal include:

- Identifying and attending relevant conferences and conventions to present educational sessions and workshops relating to CORE and NASA ERCN materials, programs and services.
- Reproducing and distributing NASA's aerospace audiovisual and multimedia educational materials to K-16 educators nationally and internationally.
- Enhancing K-16 educators' use of Earth Science, Space Science and other aerospace media by identifying appropriate NASA educational publications with companion audiovisual and multimedia products.
- Providing personal assistance to K-16 educators with information, resources, technical support and referrals for NASA programs and services as they relate to science, technology, engineering, and mathematics in aerospace products.
- Demonstrating the use of NASA educational materials and technology to pre-service, formal and informal educators through training workshops provided via distance learning and in-person sessions.

Goal: Promote STEM literacy through strategic partnerships with formal and informal organizations.

Actions taken to support this goal include:

- Collaborating with NASA to ensure that educators in minority and underrepresented schools have access to NASA audiovisual and multimedia aerospace products and programs.
- Facilitating collaboration with universities, industry, professional educational organizations, Department of Education, and National Science Foundation to ensure that large numbers of educators have access to NASA audiovisual and multimedia aerospace products.
- Partnering and collaborating with Mission Directorates to improve the capacity of science centers, museums, libraries and other institutions, to translate and deliver engaging NASA content.

## PROJECT BENEFIT TO OUTCOME 2

CORE supports Outcome 2 through the following:

- Broad national and international distribution of NASA educational materials.
- Identification of audiovisual and multimedia educational materials specific to Earth science, space science and aerospace for K-16 educators.
- Serve as a conduit for K-16 educators to access NASA information, resources, technical support and referrals relative to science, technology, engineering, and mathematics.
- Facilitate partnerships and collaboration among other NASA education projects to enhance educators at minority and underrepresented schools access to NASA materials, products and services.
- Facilitating collaboration with universities, industry, professional educational organizations, Department of Education, National Science Foundation, and the NASA education projects to ensure 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 addition to the project contributions to the PART measures listed below, CORE's accomplishments for FY11 included the following:

CORE compiled the 2011 Sun-Earth Day kits for the Sun-Earth Connections Project. Fifteen thousand (15,000) kits were prepared by the Job Training Class at the Lorain County Joint Vocational School for distribution to educators who requested them through Sun-Earth Connections. This year's theme was Ancient Mysteries Future Discoveries.

CORE held the biennial NASA Educator Resource Center Network (ERCN) Workshop January 31-February 2, 2011 at the Johnson Space Center (JSC) in Houston, Texas. Forty five members of the ERC network attended two days of networking, training, and updates, to include NASA Explorer Schools, NASA Electronic Professional Development Network (ePDN), NASA Learning Environments & Research Network (LE&RN), a Space Operations Mission Directorate update, a JSC Office of Education update, NASA eClips, International Space Station (ISS) EarthKAM, the Office of Education Performance Measurement (OEPM) System and a Do-It-Yourself Podcast demonstration. The meeting was held immediately before the 14th Annual Space Exploration Educators Conference (SEEC) sponsored by Space Center Houston to give participants the opportunity to attend both events.

CORE held bi-monthly teleconferences for the Educator Resource Center (ERC) coordinators. During the teleconferences, updates were given on topics such as upcoming events, new products, business operations and policy matters.

CORE partnered with the NASA Plumbrook Station, which is affiliated with NASA Glenn Research Center in Cleveland, Ohio, to celebrate National Engineers Week. NASA Math and Science Day was held at Kalahari Resort on February 23, 2011, in Sandusky, Ohio. Schools, educators, and students participated in activities related to NASA science, technology, engineering and mathematics (STEM) content. Approximately 200 people participated in this event.

The Third Annual NASA STEM Educators Workshop Series took place in Charlotte, North Carolina, and was hosted by the NASA Aerospace Education Services Project (AESP). This workshop targeted in-service, pre-service, and informal educators that serve K-12 levels. CORE provided NASA educational materials specific to this workshop content.

CORE partnered with the NASA Glenn Research Center Office of Education and the Lorain County, Ohio, Urban League in support of their Project Ready Kick-Off event. Approximately 75 students from grades 6 through 9, and their families participated.

CORE provided support and/or materials to 21 international partners. Of note, a request was received from Colonel Bill McQuade (NASA KSC/Army Reservist JAG) serving in Afghanistan who was doing educational outreach with local schools there. In collaboration with Kennedy Space Center, CORE received a list of materials and the quantities needed. KSC paid for the items, which were then shipped to Col. McQuade.

## PROJECT CONTRIBUTIONS TO PART MEASURES

eEducation Small Projects contributed to NASA Education FY11 Annual Performance goals to have 75,000 educators participate in NASA education programs, and 5,000 educators use NASA resources in their curricula after participating in NASA professional development.

A total of 19,139 educators were served through CORE with 32,727 curriculum support products. A total of 12,814 in-service and pre-service educators participated in 66 training workshops.

## IMPROVEMENTS (e.g., project management, efficiencies, etc.) MADE IN THE PAST YEAR

CORE worked with NASA's Teaching from Space project to support the Agency's Summer of Innovation efforts. To boost learning for students across the nation, CORE has been disseminating the Materials International Space Station Experiment Seed Kit in support of this important initiative.

CORE held a Summer of Innovation ExCEL Career Camp in June 2011 to explore STEM content and the careers related to that content and support NASA's Summer of Innovation efforts.

CORE has aligned with customer needs relative to developments in multimedia technology. CORE has updated its product line by eliminating seldom requested media formats such as VHS video tapes and 35mm slides.

CORE worked with the NASA Marshall Space Flight Center Academic Affairs Office to establish three email listservs to be used for the NASA Educator Resource Center Network (ERCN) and CORE. One listserv is for the NASA field center ERC coordinators to use for internal communications, another listserve is for the entire NASA ERC network communications, and the third one is for CORE's external use. All three listservs have been created and are in the process of being populated.

CORE continues to update its outreach efforts through social media. CORE has added a Facebook page to expand communication efforts. CORE's Facebook and Twitter accounts are listed as a link on the NASA Home Page "Connect" webpage.

CORE, in collaboration with the NASA DLInfo Channel, conducted the 2010-2011 NASA Educator Resource Showcase Series webcasts. These training sessions were delivered through the DLInfo Channel to provide introductions, demonstrations, and information about new and existing education products and services. This series of six training sessions were provided to external audiences as well as internal NASA Education audiences. Topics included:

- Dropping in a Microgravity Environment / What If No Gravity?
- Waste Limitation Management and Recycling Design Challenge
- Rocket Website and Activity Kit
- Space Operations in 2011
- Earth Observatory Online
- Cosmic Times

CORE has already planned and begun promoting the next series of nine webcast trainings for the 2011-2012 NASA Educator Resources Showcase Series.

## PROJECT PARTNERS AND ROLE OF PARTNERS IN PROJECT EXECUTION

CORE, which is operated through a cooperative agreement between Marshall Space Flight Center and Lorain County Joint Vocational School, serves as the worldwide distribution center for NASA-produced multimedia educational materials. CORE also supports the state-based NASA Educator Resource Center Network (ERCN) with materials and training to assist the Educator Resource Center staff in better serving educators within their region.

The Lorain County Joint Vocational School and CORE have an Advisory Committee composed of representatives from the educational and business community. The Advisory Committee meets twice a year to learn about activities conducted by CORE and to suggest ways to leverage resources to have the greatest impact on the community and education.