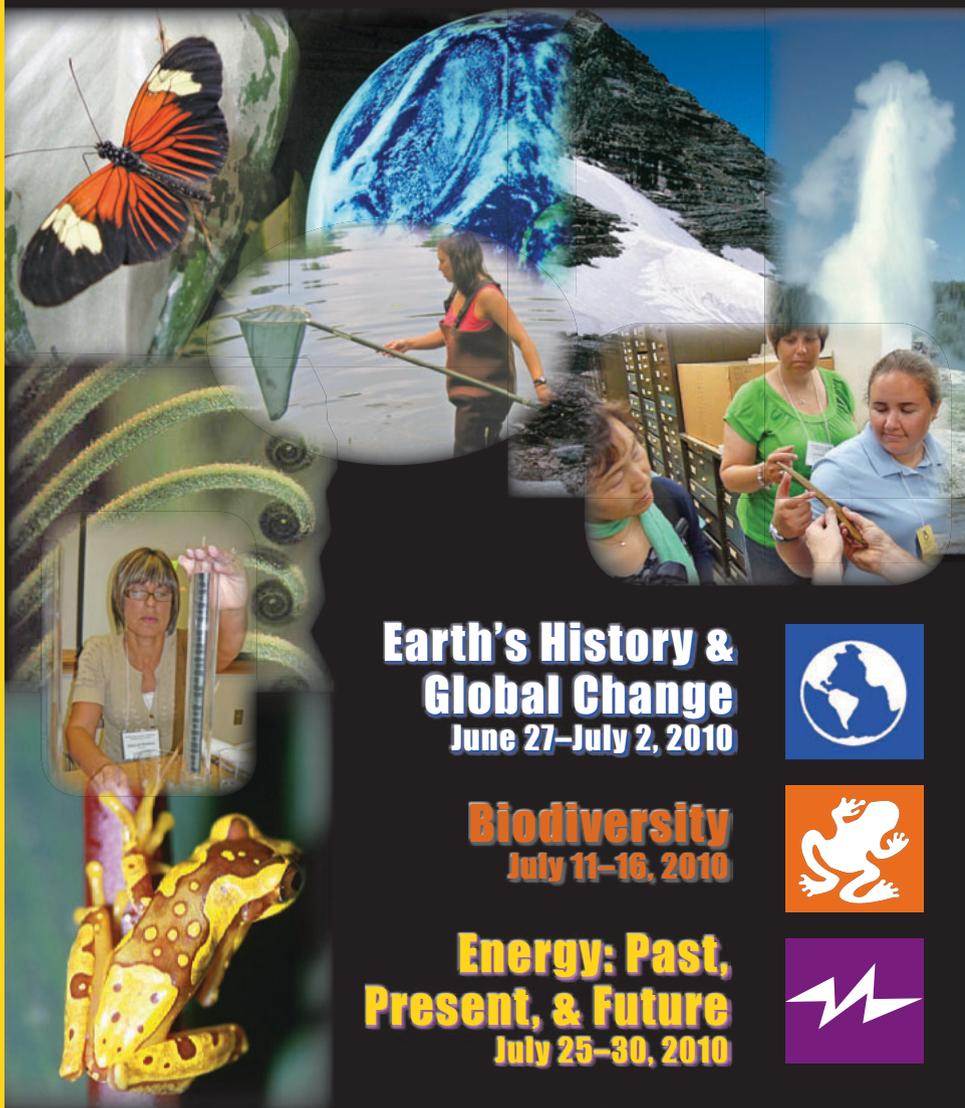




National Science Resources Center

THE NATIONAL ACADEMIES  Smithsonian Institution

2010 Smithsonian Science Education Academies for Teachers



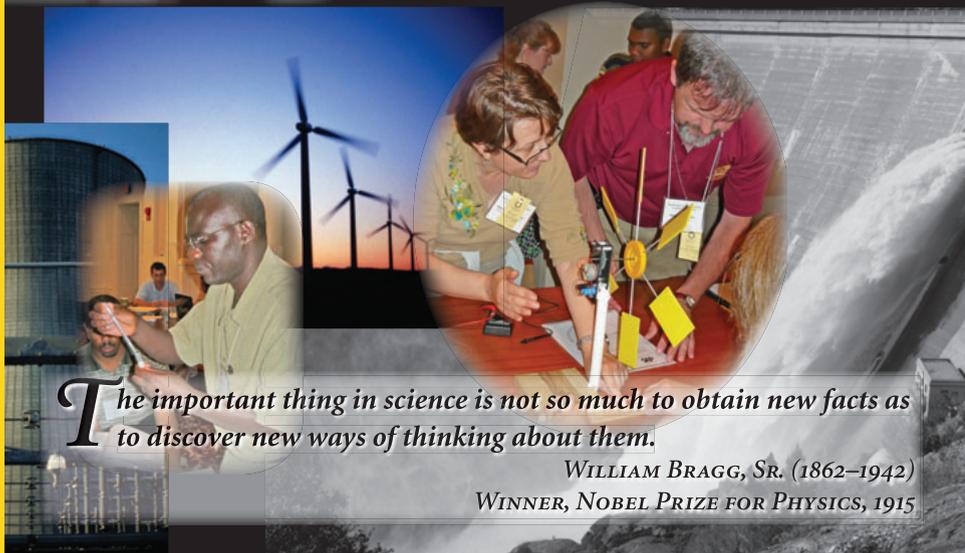
**Earth's History &
Global Change**
June 27–July 2, 2010



Biodiversity
July 11–16, 2010



**Energy: Past,
Present, & Future**
July 25–30, 2010



The important thing in science is not so much to obtain new facts as to discover new ways of thinking about them.

WILLIAM BRAGG, SR. (1862–1942)
WINNER, NOBEL PRIZE FOR PHYSICS, 1915

The 2010 Smithsonian Science Education

Academies for Teachers

The Professional Development Center of the National Science Resources Center (NSRC), an organization of the Smithsonian Institution and the National Academies, and a world-recognized leader in improving the quality of science teaching and learning, is offering a series of exciting professional development opportunities for science teachers—the **Smithsonian Science Education Academies for Teachers**.

Each of the three Smithsonian Science Education Academies for Teachers—*Earth's History & Global Change*; *Biodiversity*; and *Energy: Past, Present, & Future*—is based in the museums and/or research centers of the Smithsonian and other locations near Washington, D.C. The NSRC's special access to the resources of the Smithsonian Institution will take you behind the scenes to explore the collections and meet the scientists and educators who make the Smithsonian the world's premier museum complex.

Each academy includes:

- Hotel accommodations* for Sunday–Thursday nights
- A Sunday evening orientation and reception
- Daily breakfast and lunch
- A special Thursday night celebration
- Transport to daily events (when appropriate)
- All materials and tuition

***Participants should not contact the hotel directly for reservations—the NSRC will handle all hotel arrangements for you.**

Academies do not include:

- Travel to and from Washington, D.C.
- Parking fees or airport transfers
- Evening meals Monday through Wednesday
- Registration fees for optional college credits with VCU

College Credits

Three graduate credits are offered by Virginia Commonwealth University (VCU) for each academy. Registration for graduate credits is optional. To earn credits participants must participate in all sessions and complete a special post-academy assignment. Graduate course fees are an additional \$300 for each academy. For more details on earning college credit, please contact the NSRC Professional Development Center at (202) 633-2970, nsrcpdcenter@si.edu, or RogersL@si.edu.

Accommodations

Hotel accommodations for the academies will be at the Holiday Inn Capitol, 550 C Street, SW, Washington, DC 20024. (See <http://www.hicapitoldc.com> for hotel features.)



Earth's History & Global Change Academy

June 27–July 2, 2010

Washington, D.C.

How was the Earth formed? What is the oldest known rock on Earth? What does the fossil record tell us about global change? How is human activity altering the systems of our planet? These are some of the questions investigated in this Academy, which looks at change from the perspective of the history of our planet, from its formation through the origins of life and its impacts to current issues related to human-induced climate change.

You will get the opportunity to interact with Smithsonian educators, curators, and research scientists as you go behind the scenes at the museums and research centers in the Washington, D.C., area. Topics you will explore include planetary processes, volcanism and plate tectonics, the changing oceans, atmosphere, and climate. Sessions will include some hands-on experiences relevant to your classroom as well as subject content delivered by world-class experts in their field.

Who should attend?

- Teachers of earth sciences and interested science teachers—grades **5–12**

Contact Time: Approximately **36** hours
Graduate Credits (optional): **3**

Where will you go?

The Smithsonian Institution's National Museum of Natural History, National Zoological Park, and National Air and Space Museum; The Marian Koshland Science Museum; The Carnegie Institution for Science

What are the learning objectives?

During the Academy you will:

- Develop your understanding of key concepts relating to the history of the Earth

- Discover how scientists use rocks to investigate how the earth has changed over time
- Enjoy special access to the resources of the Smithsonian Institution
- Meet earth scientists from NOAA, NASA, the International Ocean Drilling Program, and the Carnegie Institution
- Learn about pedagogical approaches and resources that can facilitate student learning of earth science concepts

Course Fee

\$1,990 covers course materials, hotel accommodations, breakfast and lunch daily, a Sunday evening dinner and orientation, a Thursday evening Academy dinner, and field trip transportation.

To register, fill out and return attached registration form, or go to: http://www.nsrconline.org/professional_development/SSEAT_earth.html



Biodiversity Academy



July 11–16, 2010

Washington, D.C.

What problems do scientists encounter when trying to determine biodiversity? Which group of insects has the greatest biodiversity? What are the impacts of global climate change and human activities on biodiversity? The *Biodiversity* Academy consists of exciting and unique experiences designed to introduce you to a variety of Earth's living organisms and to enhance your understanding of the nature and origins of biodiversity. Each day you will participate in inquiry-based, hands-on sessions, lectures, and field trips in and around the Smithsonian Institution. You will interact with Smithsonian scientists, curators, and museum educators as you explore aspects of biodiversity on our planet. Many of your experiences will provide you with information about resources that can be used in your classroom.

Who should attend?

- Life and Earth Science Teachers—grades **5–12**
- Other teachers interested in Biodiversity issues

Contact Time: Approximately **36** hours
Graduate Credits (optional): **3**

Where will you go?

The Smithsonian Institution's National Museum of Natural History and National Zoological Park, both in Washington, D.C.; and the Smithsonian Environmental Research Center, at Edgewater, Maryland

What are the learning objectives?

By completing this course, you will:

- Improve your understanding of key concepts that relate to the origins and nature of biodiversity

- Explore the variety of life as you access the museum collections and other scientific and educational resources of the Smithsonian
- Experience pedagogical techniques that facilitate a hands-on, inquiry approach in teaching about biodiversity
- Increase your awareness of some major threats to biodiversity

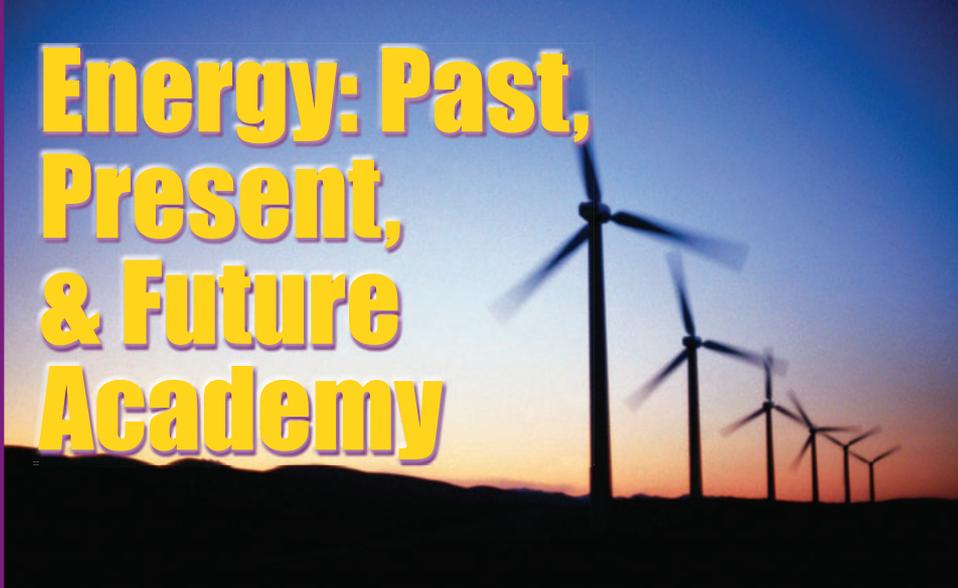
Course Fee

\$1,990 covers course materials, hotel accommodations near the National Mall, breakfast and lunch daily, a Sunday evening dinner and orientation, a special Thursday evening Academy dinner, and field trip transportation.

To register, fill out and return attached registration form or go to: http://www.nsrconline.org/professional_development/SSEAT_BIO.html



Energy: Past, Present, & Future Academy



July 25–30, 2010

Washington, D.C.

Energy: Past, Present, and Future looks at the history of energy development and use in the United States, current energy needs, and alternative energy sources for the future. Topics to be explored include fossil fuels, the generation of electricity, solar energy, wind power, fuel cells, other energy sources, and the use of energy in transportation. Each day participants will engage with scientists, curators, engineers, and educators at the Smithsonian Institution museums and other local venues. This academy will incorporate some experiences from our previous *Energy & Motion* and *Electricity & Magnetism* academies.

Who should attend?

- Physical Science Teachers and any interested science teachers—grades **5–12**

Contact Time: Approximately **36** hours
Graduate Credits (optional): **3**

Where will you go?

The Smithsonian Institution's National Museum of American History and National Museum of Natural History; the National Institute of Standards and Technology; the Baltimore and Ohio Railroad Museum; and electricity-generating facilities (locations may vary from the ones listed)

What are the learning objectives?

By completing this course, you will:

- Develop your understanding of key concepts relating to energy sources and how they have been used

- Improve your understanding of current research and development being conducted into alternative energy resources
- Enjoy special access to the scientific and educational resources of the Smithsonian's collections, scientists, and historians
- Engage in hands-on inquiry sessions that facilitate the teaching of this topic
- Form rich connections through experiences with scientists and educators

Course Fee

\$ 1,990 covers course materials, hotel accommodations near the National Mall, breakfast and lunch daily, a Sunday evening dinner and orientation, a special Thursday evening Academy dinner, and field trip transportation.

To register, fill out and return attached registration form, or go to: http://www.nsrconline.org/professional_development/SSEAT_energy.html

2010 Smithsonian Science Education Academies for Teachers

Registration Form

(or register online at: www.nsrconline.org/professional_development)

Name _____

Home Address _____

City/State/Zip _____

Phone/Fax/Email _____

Summer Contact Information (if different from above):

Phone/Email _____

Hotel Room Registration

If sharing a room with a teacher from your school/district, please list name of registered roommate:

If you have special mobility, dietary, or other needs, please identify here:

FEES	Earth's History & Global Change June 27–July 2	Biodiversity July 11–16	Energy: Past, Present, & Future July 25–30
Course Fee	\$1,990	\$1,990	\$1,990
Discounts: (check as apply)			
Early-bird registration (Payment deadline: May 14, 2010)	-100	-100	-100
Not staying at hotel	-500	-500	-500
Roommate- sharing a room with fellow registrant	-350	-350	-350

Please detach form and send, along with check, purchase order, or credit card information to:

NSRC Professional Development Center
901 D Street, SW, Suite 704-B
Washington, DC 20024

or fax to: (202) 287-2070

Please make checks payable to “National Science Resources Center.”

Credit card information: VISA MasterCard

Name on card _____

Card number _____

Expiration date _____

Other NSRC Professional Development Courses

The Professional Development Center of the NSRC offers professional development courses that can be customized to meet specific needs of a school, school district, or educational coalition, in the location of your choice, for up to 25 participants. A summary of courses offered by the NSRC is provided in the table below.

Course	Audience	Description	Price
Level 1—Introductory			
STC® & STC/MS™ Curriculum Showcase (5 hours)	Administrators, science content specialists, and teachers new to STC® or STC/MS™	<ul style="list-style-type: none"> ■ Introduction: “Why Use Inquiry?” An overview of the philosophy and goals of the STC Program™ ■ Hands-on experience with typical investigations used in STC Program™ curricula. Evidence of effectiveness of the STC Program™ 	\$2,500
Implementation Courses for Individual STC Units (6 hours)	Teachers (grades 1–6) new to STC	Prepare teachers unfamiliar with STC to implement an STC unit in their classrooms. Each course is specific to one unit and guides teachers through all lessons. (Can be extended to 12 hours to include more science content for an additional fee.)	\$1,800
Implementation Courses for Specific STC/MS Modules (3 days, 18 hours)	Teachers (grades 6–9) new to STC/MS	Prepare teachers unfamiliar with STC/MS to implement an STC/MS unit in their classrooms. Each course is specific to one unit and guides teachers through all lessons. (Can be extended one day to include more science content for an additional fee.)	\$5,400
Level 2—Intermediate			
Level 2 Implementation Courses for Specific STC/MS Modules (3 days, 18 hours)	Teachers who have at least one year’s teaching experience with the module	Focus on content and pedagogy instruction for current users of STC/MS	\$5,400
Short courses that support the inquiry approach to learning and teaching science	Teachers and teacher-leaders who are engaged in organizing or teaching inquiry-based science curricula	One-day courses that focus on specific areas of science education, such as: <ul style="list-style-type: none"> ■ Following conceptual strands in a K–9 science curriculum—STC and STC/MS ■ Using notebooks in inquiry science 	\$1,800
Level 3—Advanced			
STC/MS 3-day curriculum implementation courses—train the trainers	Teachers and teacher-leaders with good presentation skills and more than two years’ experience teaching an STC/MS module	Prepare education professionals to deliver the implementation courses or train them as NSRC-certified consultants	\$5,400

Courses are conducted on a fee-for-service basis by an NSRC-trained consultant.

For more information, please contact the Professional Development Center at nsrcpcenter@si.edu or call (202) 633-2970.

National Science Resources Center

THE NATIONAL ACADEMIES  Smithsonian Institution

The National Science Resources Center
Professional Development Center
901 D Street, SW, Suite 704-B
Washington, DC 20024-2169



THE NSRC IS AN ORGANIZATION OF:

THE NATIONAL ACADEMIES
Advisers to the Nation on Science, Engineering, and Medicine



**Smithsonian
Institution**

About the NSRC

The National Science Resources Center was established in 1985 by the **Smithsonian Institution** and **the National Academies** to improve the learning and teaching of science for all students in the United States and throughout the world. The prestige and credibility of these two world-renowned institutions provide the NSRC with access to research, scientific expertise, and resources to inform our work. The NSRC works with leaders representing school districts, academic institutions, businesses, museums, foundations, government agencies, scientific and engineering societies, publishers of education resources, and nonprofit organizations, to improve K–12 science education.