



Smithsonian Environmental  
Research Center

# SERC SUN

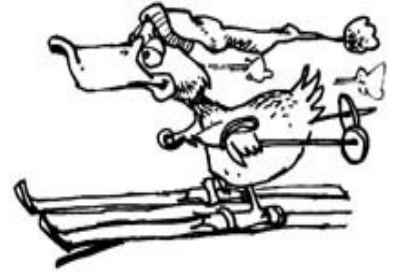
The Smithsonian  
*In Your Own Back Yard!*  
647 Contees Wharf Road  
Edgewater, MD 21037

## Public Programs: Fall/Winter 2011-12

**The Smithsonian Environmental Research Center (SERC)  
is open to the public Monday-Saturday from 9 am-4:30 pm.**

Public programs are designed for individuals and families. Additional programs are available for schools and organized groups. Check our website at [www.serc.si.edu](http://www.serc.si.edu) for a list of age-appropriate environmental education programs, information about trails, and upcoming events. Registration for public programs is all online, visit: [http://serc.si.edu/public\\_programs/index.aspx](http://serc.si.edu/public_programs/index.aspx).

All programs meet at the Reed Education Center and are free unless otherwise stated. Directions to SERC can be found online at [www.serc.si.edu](http://www.serc.si.edu). SERC is a wildlife conservation area and pets are not allowed on the research campus. There is no food available on the SERC campus.

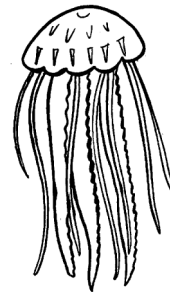


### September

- Saturday, 3<sup>rd</sup> - Canoe Excursion (9-11:30 am)
- Wednesday, 14<sup>th</sup> - Home School: Earthworm Biology Lab (5-7 yrs. 10-11 am; 8-12 yrs. 10:30 am-Noon, 1:30-3 pm)
- Thursday, 15<sup>th</sup> - Home School: Animal Physiology Course: Introduction (13-16 yrs. 1:30-4 pm)
- Saturday, 17<sup>th</sup> - Canoe Excursion (9-11:30 am)  
Fall Native Orchid Walk and Talk (1-3 pm)
- Wednesday, 21<sup>st</sup> - Mom n' Me: Plant Nibblers Hike (10-11 am & 1:30-2:30 pm)  
Evening Lecture Series: "Exploring Ancient Rivers and Lakes of the Northeast Sahara" (using satellite imaging), Dr. Ted Maxwell (7-8 pm)
- Wednesday, 28<sup>th</sup> - Home School: Herbivory Hike (5-7 yrs. 10-11 am; 8-12 yrs. 10:30 am-Noon, 1:30-3 pm)
- Thursday, 29<sup>th</sup> - Home School: Animal Physiology Course: Skeletal Systems (13-16 yrs. 1:30-4 pm)

### October

- Saturday, 1<sup>st</sup> - Canoe Excursion (9-11:30 am)
- Wednesday, 5<sup>th</sup> - Mom n' Me: Build a Fort (10-11 am & 1:30-2:30 pm)
- Wednesday, 12<sup>th</sup> - Home School: Leaves and Photosynthesis (5-7 yrs. 10-11 am; 8-12 yrs. 10:30 am-Noon, 1:30-3 pm)
- Thursday, 13<sup>th</sup> - Home School: Animal Physiology Course: Muscular Systems (13-16 yrs. 1:30-4 pm)
- Saturday, 15<sup>th</sup> - Canoe Excursion (9-11:30 am)
- Wednesday, 19<sup>th</sup> - Mom n' Me: Jiggly Jellyfish (10-11 am & 1:30-2:30 pm)  
Evening Lecture Series: "Sources and Sinks for Nutrient Discharges from Watersheds of the Chesapeake Bay," Dr. Tom Jordan (7-8 pm)
- Wednesday, 26<sup>th</sup> - Home School: Slimy Creatures (5-7 yrs. 10-11 am; 8-12 yrs. 10:30 am-Noon, 1:30-3 pm)
- Thursday, 27<sup>th</sup> - Home School: Animal Physiology Course: Organ Systems (13-16 yrs. 1:30-4 pm)
- Saturday, 29<sup>th</sup> - Canoe Excursion (9-11:30 am)  
Introduction to Spiders (1:30-2:30 pm)



### November

- Wednesday, 2<sup>nd</sup> - Mom n' Me: Migration Movers (10-11 am & 1:30-2:30 pm)
- Saturday, 5<sup>th</sup> - Contee Watershed Trail Hike (11 am-12:30 pm)
- Wednesday, 9<sup>th</sup> - Home School: Plant Pollination Strategies (5-7 yrs. 10-11 am; 8-12 yrs. 10:30 am-Noon, 1:30-3 pm)
- Thursday, 10<sup>th</sup> - Home School: Animal Physiology Course: Crayfish/Blue Crab Dissection (13-16 yrs. 1:30-4 pm)
- Wednesday, 16<sup>th</sup> - Mom n' Me: Gobble Goes the Turkey (10-11 am & 1:30-2:30 pm)  
Evening Lecture Series: "Tracking the Birdman/an Art Historic Search for a Pre-Columbian Deity" Sandra Starr (7-8 pm)
- Wednesday, 30<sup>th</sup> - Home School: Bird Migration (5-7 yrs. 10-11 am; 8-12 yrs. 10:30 am-Noon, 1:30-3 pm)



### December

- Thursday, 1<sup>st</sup> - Home School: Animal Physiology Course: Amphibian Dissection (13-16 yrs. 1:30-4 pm)
- Wednesday, 7<sup>th</sup> - Mom n' Me: Oceans (10-11 am & 1:30-2:30 pm)
- Wednesday, 14<sup>th</sup> - Home School: Insect and Animal Movement (5-7 yrs. 10-11 am; 8-12 yrs. 10:30 am-Noon, 1:30-3 pm)
- Thursday, 15<sup>th</sup> - Home School: Animal Physiology Course: Bird Dissection (13-16 yrs. 1:30-4 pm)

### January

- Wednesday, 11<sup>th</sup> - Mom n' Me: Rodents (10-11 am & 1:30-2:30 pm)
- Wednesday, 18<sup>th</sup> - Home School: What Is a Heart? (5-7 yrs. 10-11 am); Hearts, from Insects to Mammals, Dissection (8-12 yrs. 10:30am- Noon, 1:30-3 pm)
- Thursday, 19<sup>th</sup> - Home School: Animal Physiology Course: Rat Dissection (13-16 yrs. 1:30-4 pm)
- Wednesday, 25<sup>th</sup> - Mom n' Me: Explore Egypt (10-11 am & 1:30-2:30 pm)



### February

- Wednesday, 1<sup>st</sup> - Home School: Colonization of Space (5-7 yrs. 10-11 am; 8-12 yrs. 10:30 am-Noon, 1:30-3 pm)
- Thursday, 2<sup>nd</sup> - Home School: Animal Physiology Course: Independent Project Preparation (13-16 yrs. 1:30-4 pm)
- Wednesday, 8<sup>th</sup> - Mom n' Me: Slippery Slimy Creatures (10-11 am & 1:30-2:30 pm)
- Wednesday, 15<sup>th</sup> - Home School: Nature Inspired Design Science Fair Part I (5-7 yrs. 10-11 am; 8-12 yrs. 10:30 am Noon, 1:30-3 pm)
- Thursday, 16<sup>th</sup> - Home School: Animal Physiology Course, Paper Presentations (13-16 yrs. 1:30-4 pm)
- Wednesday, 29<sup>th</sup> - Home School: Nature Inspired Design Science Fair Poster Presentation (5-7 yrs. 10-11 am; 8-12 yrs. 10:30 am-Noon, 1:30-3 pm)

**SERC Evening Lecture Series  
Wednesdays  
7-8 pm FREE  
Schmidt Center**

**"Exploring Ancient Rivers and Lakes of the Northeast Sahara"**

**Dr. Ted Maxwell, National Air and Space Museum**

**Wednesday, September 21<sup>st</sup>**

Orbital data from a variety of satellites has enabled us to identify key sites in western Egypt and adjacent Sudan that reveal evidence for climate change over the past million years. Like the planet Mars that has undergone immense climatic shifts, the northeast Sahara is a fertile field for exploring the effect of wet and dry climatic cycles that have left an imprint on the landscape. Now a hyperarid desert, field studies of the rivers that are visible only through orbital radar images, and lakes that are studied with topographic data provide ample evidence for a much wetter Sahara Desert in the past. Free.

**"Sources and Sinks for Nutrient Discharges from Watersheds of the Chesapeake Bay"**

**Dr. Tom Jordan, SERC**

**Wednesday, October 19<sup>th</sup>**

Chesapeake Bay has become overloaded with the plant nutrients nitrogen and phosphorus. This has led to over-production of algae, depletion of oxygen, and demise of submerged vegetation. Scientists at SERC have been investigating the sources of nutrient discharges from the watershed and the potential for some ecosystems to serve as sinks for nutrients by trapping or removing nitrogen and phosphorus. Tom Jordan will summarize the findings of research spanning the past three decades and still continuing. Free.

**"Tracking the Birdman/an Art Historic Search for a Pre-Columbian Deity."**

**Sandra Starr, National Museum of the Native American**

**Wednesday, November 16<sup>th</sup>**

Scholarship attests to a legendary creator-benefactor deity who walked ancient lands and then flew away or walked away on the sea promising to return, whose visual description bears remarkable similarity within most Pre-Columbian cultures in Latin America. A photographic analysis of over one thousand objects in pursuit of tangible evidence of this deity shows direct relationships in iconography that speak of this personage whose beneficent remembrance adorns not only the art of the ancient Andes, Mesoamerica and Mexico, but that of Adena and Etowah, thereby extending art historic material evidence from southern South America into Mississippian

## Canoe Trips

### Canoe Excursions

**Saturdays, September 3<sup>rd</sup> & 17<sup>th</sup>, October 1<sup>st</sup>, 15<sup>th</sup> & 29<sup>th</sup> (9-11:30 am)**

Paddle along the shores of Muddy Creek and the Rhode River to learn about one of the many tributaries of the Chesapeake Bay. We'll look for wildlife, eagles, shorebirds, reptiles, and more. This trip is designed for beginning and intermediate paddlers. Basic instruction will be given at the start of the program. Cost is \$14 per adult and \$7 for children 6-12 years old; limited to 16 participants. Preregistration is required online at [http://serc.si.edu/public\\_programs/index.aspx](http://serc.si.edu/public_programs/index.aspx).



## Mom n' Me Pre-K Programs

These programs are for children ages 3-5 yrs. All classes are \$7 a student which includes a materials fee. Siblings are \$3 a student (sibling ages 1-2 yrs. or 6+ yrs.). Registration is online only at [http://serc.si.edu/public\\_programs/index.aspx](http://serc.si.edu/public_programs/index.aspx). Classes are limited to 18 students per session.

*All classes meet on Wednesdays. The same class is offered at two different times on the same day from 10-11 a.m. and 1:30-2:30 p.m.*

**September 21<sup>st</sup> - Plant Nibblers Hike:** Discover the world of herbivores that chew on plants. We'll take a hike to look for chomping creatures and their signs.

**October 5<sup>th</sup> - Build a Fort:** Back by popular demand! We'll journey into the forest and build forts using sticks, twigs, and twine and talk about the three things animals need-food, water, and shelter.

**October 19<sup>th</sup> - Jiggly Jellyfish:** Jellyfish are scary and exciting. We'll explore their gelatinous world, how they sting, and what types live in the Bay.

**November 2<sup>nd</sup> - Migration Movers:** Children will learn about migration, who moves, and why in this program packed with games and fun.

**November 16<sup>th</sup> - Gobble Goes the Turkey:** Come listen to tales about the resident turkeys here at SERC and why turkeys are the symbols of Thanksgiving.

**December 7<sup>th</sup> - Oceans:** The ocean is a great big home for tiny and large animals. We'll learn about these creatures and what lives in the oceans.

**January 11<sup>th</sup> - Rodents:** Chewing and gnawing rodents are the topic for this class. Explore the world of rabbits, beavers, mice, rats, and more.

**January 25<sup>th</sup> - Explore Egypt:** We will climb imaginary pyramids and float down the Nile while delving into the culture of Egypt from hieroglyphs to mummies.

**February 8<sup>th</sup> - Slippery Slimy Creatures:** Slime is important for land and water animals, to help them move and stay moist. Participants will discover slimy creatures and make their own slime.



## Home School

Home school classes are for three different age groups; 5-7 yrs., 8-12 yrs. and 13-16 yrs. For the two younger age groups you may register for individual classes; however, for the older students the classes must be registered for as a block because content builds for each lesson. Registration is online only beginning July 18<sup>th</sup> at [http://serc.si.edu/public\\_programs/index.aspx](http://serc.si.edu/public_programs/index.aspx). *All classes for 5-7 yrs. (9-10 am) and 8-12 yrs. (10:30 am-Noon & 1:30-3 pm) meet on Wednesdays. The 13-16 yr. old classes meet on Thursdays (1:30-3:30 pm).*

*Costs: 5-7 year old classes (1 hr.)- \$10 per student; 8-12 year old classes (1.5 hr.)- \$14 per student; additional lab fee for Heart Lab (\$8/student).*

*13-16 year old classes (2 hr)- \$200 (\$160 course cost + \$40 lab fee for preserved specimens, each student receives one organism for dissections)*

### 5-7 yr. & 8-12 yr. Courses

**September, 14<sup>th</sup> - Earthworm Biology Lab:** Students will learn about native versus non native earthworms and then will learn how to extract them from the ground and do some basic identification in the field.

**September, 28<sup>th</sup> - Herbivory Hike:** Herbivores abound in SERC forests, from caterpillars to rabbits. We will hike to look for these organisms, and their signs, on the new Contee Farm Watershed Trail.

**October, 12<sup>th</sup> - Leaves and Photosynthesis:** In this lab we'll learn about the process of photosynthesis, the different types of chlorophyll, and why leaves change colors. For older students we'll also work on learning how electron chains move and plants make sugar. **FULL**

**October, 26<sup>th</sup> - Slimy Creatures:** A wide variety of vertebrates and invertebrates use "slime" to move, lubricate, and protect themselves. We'll discuss these strategies and make our own slime for fun.

**November, 9<sup>th</sup> - Pollination Strategies:** Plants use all types of mechanisms to attract and fool potential pollinators. We'll explore these methods from mimicry to chemical cues.

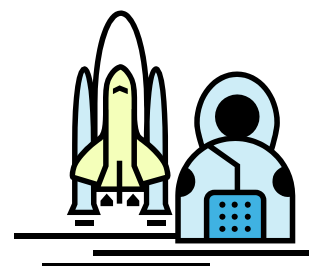
**November, 30<sup>th</sup> - Bird Migration:** Delve into the mystery of how birds migrate, know when to migrate, and where to go. We'll use maps and discuss bird biology.

**December, 14<sup>th</sup> - Insect and Animal Movement:** Insects and animals are designed perfectly to climb, crawl, walk, run, and hop. We'll explore how they move and their muscular/skeletal structures, and then play with the new Hexbugs to model insect movement.

**January, 18<sup>th</sup> - What is a Heart? (5-7 yrs.):** Students will explore the hearts of different animals from insects to mammals and we'll look at some real dissected hearts. **Hearts-From Insects to Mammals Dissection (8-12 yrs):** Students will learn about hearts and their structures, from insects to mammals, and dissect their very own heart (additional lab fee required). **FULL**

**February, 1<sup>st</sup> - Colonization of Space:** Space is the next frontier of colonization. We'll explore what this would require, what space programs are being conducted currently, and create our own colonization schema.

**February, 15<sup>th</sup> & 29<sup>th</sup> - Nature Inspired Design Class and Science Fair Presentations:** Students will be required to register for both of these classes together. On the first date we will explore the world of nature inspired design and problem solving (focusing on plants and animals) and discuss projects. On the second date students will present a poster in a science fair format. More details will be provided upon registration.



### Animal Physiology Home School Lab Series (13-16 yrs.)

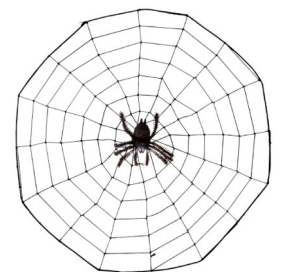
This is a lab based course and students are required to attend all of the classes. Individual class registration is not available. At the end of this course students will be required to write a paper and conduct a 5 minute power-point talk. Students will also be required to have their own dissection kit and gloves. Details will be provided upon registration.

## General Programs

### Fall Native Orchid Walk and Talk

**Saturday, September 17<sup>th</sup> (1-3 pm)**

There are nine known species of orchids here at SERC that our researchers study and many more in Maryland. Come discover these orchids and their unique biology. After a short talk we'll take a walk in the woods to see if we can find some of these natives. Hike is approximately ¾ mile over uneven terrain. Wear walking shoes and long pants. Registration required online at [http://serc.si.edu/public\\_programs/index.aspx](http://serc.si.edu/public_programs/index.aspx); \$8/person



### Introduction to Spiders

**Saturday, October 29<sup>th</sup> (1:30-2:30 pm)**

Do you know the difference between hunting and weaving spiders? In this program we will explore some of the unique features of spiders from their hydrostatic skeleton to their multiple eyes and hooked legs. Great for all ages. Pre-registration is online at [http://serc.si.edu/public\\_programs/index.aspx](http://serc.si.edu/public_programs/index.aspx); \$4 per person.

### Contee Watershed Trail Hike

**Saturday, November 5<sup>th</sup> (11 am-12:30 pm)**

The Contee Farm is SERC's newest property and is a pristine forest. Come join us for a hike through the new watershed trail and to the new overlook. Hike is approx. 1 mile over moderate hills and inclines. Suggested for ages 8+. Pre-registration is online at [http://serc.si.edu/public\\_programs/index.aspx](http://serc.si.edu/public_programs/index.aspx); \$4 person.