

University of Virginia Outreach Programs in Science and Astronomy

UVA has been recognized around the world for its innovative work in science and astronomy. Visit some of these on-line resources to learn more.

From *OutreachVirginia's* home page (www.virginia.edu/outreachvirginia) type **astronomy** and **science** into the keyword search to produce the full list or type any of the program names from the list below and select **Go**.

Astronomy Public Nights

The Department of Astronomy opens its two observatories throughout the year to the public. Visitors observe the night sky through observatory telescopes and learn about the research work and history of the observatories. Most public nights are held at the McCormick Observatory on UVA grounds. Twice yearly, the Fan Mountain Observing Station, 13 miles south of Charlottesville, is open. For more information 434-924-7494

Astronomy Question and Answer (AQUA)

A searchable, on-line archive that can provide answers to your astronomy questions. Send astronomy questions to AQUA and receive an answer from UVA Astronomy graduate students through email. URL <http://www.astro.Virginia.EDU/AQuA/>

On-Line Science Experiments

The Center for Biological Timing's web site allows students to participate in a real-time science experiment. Students can view live images and actual experiment results, analyze real-time data, form hypotheses, suggest variables for new experiments, and share conclusions with other scientists from all over the world. Two experiments are available: one designed for K-4 students and a second for middle school students. Both experiments include extensive teacher guides. URL <http://www.cbt.virginia.edu/Olh/>

Producing an Excellent Experimental Science Project

An on-line guide that helps students design an experimental science project. Students are guided through the process of choosing a topic, designing the experiment, displaying their results, and writing a conclusion. URL http://www.cbt.virginia.edu/Olh/middle/activ_m/ideas/experi.html

How Things Work: The Physics of Everyday Life

This searchable website encourages everyone to learn about the physics and science of the world around them. Visitors are able to email questions to UVA Professor Lou Bloomfield who posts explanations on the site.

School Field Trips at Blandy Experimental Farm

School field trips in science are offered at the State Arboretum of Virginia at Blandy Experimental Farm for grades 1-12. Topics include Let's Sprout, Trees & Me, Scoop on Soils, Flower Factory, Seed Lifestyles, Worms!, Arbor Sleuth, Discover Diversity and Science Explorations. Reservations required. For more information (540) 837-1758 ext. 54

KITS (Kids Investigating Technology and Science)

The UVA branch of the Virginia Museum of Natural History (UVA-VMNH) offers outreach education programs to schools and hands-on learning kits for educators in Central Virginia. KITS is a collection of thematically-based teaching materials, activities and resources which provide active learning experiences and encourage inquiry into natural history topics and basic principles of applied science. Group tours of current exhibits and specially designed educational programs are available at the museum for a nominal fee. For more information 434-982-4605

Museum Exhibits and Tours in Natural History

The UVA branch of the Virginia Museum of Natural History (UVA-VMNH) houses rotating exhibits in natural history. The Wachovia-UVA Discovery Room welcomes children ages 3 and up to touch, turn, explore, and examine natural history specimens and artifacts. During the school year, UVA-VMNH schedules monthly preschool programs for children ages 3-5 as well as after-school and Saturday programs for older children and youth. In the summer UVA-VMNH holds several mini-camp sessions for children ages 6-12 which focus on a variety of natural history topics. Family nature walks and night-time star gazing parties are also offered.

For a current schedule of activities 434-982-4605

Physics Day Show

A popular annual event that always draws a crowd, the Physics Day Show, presented by UVA's Department of Physics, offers a fast-paced hour of intriguing and exciting physics demonstrations appropriate for all ages. The program varies from year to year, but visitors may be enclosed in a bubble, shown how to fly, have their hair stand on end, be asked to lie on a bed of nails, or be given a ride on a rocket sled. The free program is appropriate for families of all ages.

For more information 434-924-3781

On-Line Biological Timing Tutorial

The Center for Biological Timing offers an on-line tutorial that explores the background, concepts, and practical applications of biological timing research. The tutorial is also available on CD-ROM.

URL <http://www.cbt.virginia.edu/tutorial/TUTORIALMAIN.html>

Saturday Enrichment Program

For students in K-5, this program offers academic study in the sciences, math, arts, humanities, and the social sciences for five consecutive Saturdays in February and March.

Personal Enrichment Courses

The Charlottesville Regional Center offers non-credit evening courses ranging from topics in architecture to those of astronomy for individuals who desire to cultivate personal enrichment in the intellectual life of the University.

Summer Workshop in Life Sciences, Ecology & Energy for K-8 Science Teachers

This two-week workshop offers science teachers hands-on laboratory and field-based activities that correlate with science Standards of Learning expectations.

Summer Teacher-Scholar Fellowships

Each year, the Center for the Liberal Arts makes available twelve \$1,000 summer teacher-scholar fellowships for Virginia's K-12 educators to advance their knowledge of their teaching fields or undertake a scholarly project.

Standards of Learning Program for Virginia Teachers and Schools

The School of Continuing and Professional Studies offers courses that help teachers and school systems respond to the challenge of Virginia's Standards of Learning.

Suggested Resources for Astronomy and the Milky Way

Chapters 8 and 9 of Timothy Ferris' book: *Coming of Age in the Milky Way*, c. 1988, Morrow Publishing

The Alchemy of the Heavens: Searching for Meaning in the Milky Way by Ken Croswell.

Curtis-Shapley Debate:

http://antwrp.gsfc.nasa.gov/diamond_jubilee/debate_1920.html

Edgar Allan Poe's Science:

<http://mathpages.com/home/kmath522/kmath522.htm>

Information on the Milky Way, Andromeda Galaxy, and Sagittarius Dwarf Galaxy:

<http://www.seds.org/messier/more/mw.html>

<http://www.seds.org/messier/m/m031.html>

<http://www.seds.org/messier/more/sagdeg.html>

Interacting Galaxy Sites, including animated simulations:

<http://www.cv.nrao.edu/~jhibbard/n4676/>

<http://terpsichore.stsci.edu/~summers/viz/mhs/>

http://www.psc.edu/Packages/StarSplatter_Home/

<http://burro.astr.cwru.edu/SSAnims/>

<http://www.ifa.hawaii.edu/faculty/barnes/transform.html>

<http://www.mpa-garching.mpg.de/gadget/right.html>

Space Telescope Gallery (including pictures of interacting galaxies):

http://hubble.stsci.edu/news_and_views/cat.cgi.galaxies+1

Women's contributions to astronomy including Henrietta Leavitt:

<http://www.pbs.org/wgbh/aso/databank/entries/baleav.html>

<http://antwrp.gsfc.nasa.gov/apod/ap981027.html>

<http://web.mit.edu/invent/www/inventorsI-Q/leavitt.html>

Edwin Hubble:

<http://encarta.msn.com/index/conciseindex/00/00022000.htm?z=1&pg=2&br=1>

Walter Badde:

<http://www.encyclopedia.com/articles/00961.html>