

## RESOURCES

### Of Moss and Men

Despite lacking seeds, flowers, and a vascular system, the plants known as bryophytes are stalwart pioneers, first settling on land more than 400 million years ago. This pair of sites can help newbies and experts get better acquainted with this ancient group, which includes hornworts, liverworts, and mosses.



Packed with information for taxonomists is this bryology page from the Missouri Botanical Garden in St. Louis.\* The index of mosses describes nomenclature, distribution, and classification (left, specimens of *Leskea*). To find out the difference between a sulcus (a groove on the plant) and a surculus (an upright shoot), try the glossary of more than 1100 bryophyte terms. The site also includes checklists of mosses for the world and for particular locales such as Thailand and China.

The gallery of photos on this site† from botanist Paul Davison of the University of North Alabama in Florence captures a variety of bryophytes and highlights key anatomical features, such as the budlike gemmae that develop into new plants.

- \* [www.mobot.org/MOBOT/tropicos/most/welcome.shtml](http://www.mobot.org/MOBOT/tropicos/most/welcome.shtml)
- † [www2.una.edu/pdavis/bryophytes.htm](http://www2.una.edu/pdavis/bryophytes.htm)

## DEBATE

### Safe But Sorry?

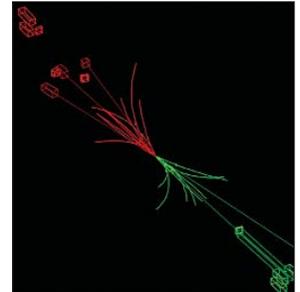
Is society's growing timidity toward risk stifling technological and scientific advances? Or are people prudently reacting to the uncertain benefits of these developments? Join a debate about these questions at Fearing the Unknown, sponsored by the London-based online magazine *spiked* and Britain's Wellcome Trust. The site presents the first in a series of online wrangles about risk and biomedicine that will run over the next 2 years. To kindle the discussion, two experts posted dueling essays last month, and visitors can browse readers' responses or add their own salvos. Background information includes a British parliamentary report on factoring risk into government decisions. The next debate, tackling the restrictions on using donated tissue and organs, begins in May.

[www.spiked-online.com/sections/risk/debates/riskaverse](http://www.spiked-online.com/sections/risk/debates/riskaverse)

## TUTORIAL

### Take the Collider for a Spin

Get a crash course in particle physics and deciphering the structure of matter at Hands-on-CERN, a tutorial that explains the workings of the famous atom smasher near Geneva. Physicist Erik Johansson of Stockholm University and colleagues are still polishing up the English version, but the site provides high school students with plenty of background on the quarks, gluons, and other particles that form matter and carry forces. Visitors can take a virtual trip more than 100 meters below ground to learn how the accelerators at CERN push electrons and positrons to nearly the speed of light. Animations help explain how detectors register the products of high-energy collisions. After studying a primer on the tracks that these different particles leave behind, students can analyze results from CERN experiments (above).

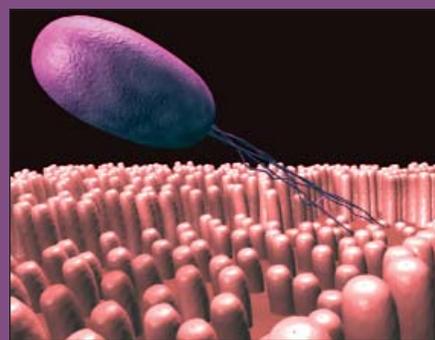


[hands-on-cern.physto.se](http://hands-on-cern.physto.se)

## EDUCATION

### Biology Class Gets Wired

A noxious *Escherichia coli* bacterium (below) nestles onto a patch of intestinal lining carpeted with microvilli. The image comes from an animation portraying how the bug coerces an intestinal cell into building it a comfy resting place. Watch the flick at BioInteractive, an online teaching trove packed with activities, videos, and other goodies from the Howard Hughes Medical Institute (HHMI).



Aimed at high school level and up, BioInteractive is organized around lectures by HHMI investigators that explore genetics, molecular biology, immunology, and other biomedical fields. More than 20 animations illustrate topics such as the mechanics of hearing, shown by the response of different portions of a membrane in the inner ear to

notes in a Bach piece. In the virtual lab, students can measure the electrical activity of a leech's neurons and run a diagnostic test for bacterial infection; a set of interactive primers includes a lesson on gender testing of athletes. The site's online museum offers exhibits on everything from biological clocks to the discovery of pathogens. Teachers can download lesson plans or order free DVDs.

[www.biointeractive.org](http://www.biointeractive.org)

Send site suggestions to [netwatch@aaas.org](mailto:netwatch@aaas.org). Archive: [www.sciencemag.org/netwatch](http://www.sciencemag.org/netwatch)

## TUTORIAL: Take the Collider for a Spin

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