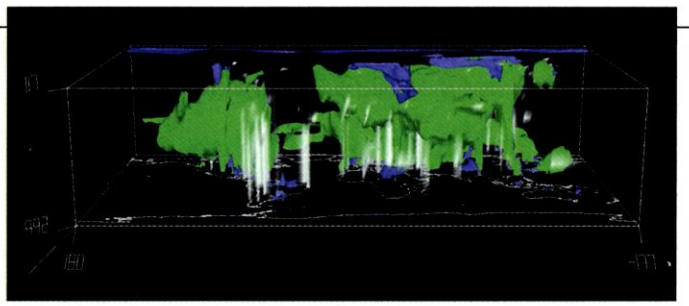


CREDIT: (TOP) MOZART

COOL IMAGES

As the World Turns

Say "climate modeling" and your eyes may glaze over envisioning scientists feeding reams of data into a supercomputer, all to arrive at a single number: Earth may warm X degrees in the next century. But atmospheric scientists also transform their models into movies, the better to "quickly ingest a huge amount of data visually to get an overall sense of what is happening"—and to make their work easier to grasp for the rest of us, says Tim Scheitlin, a visualization whiz at the National Center for Atmospheric Research (NCAR). For example, above is a frame from an animation modeling how lightning (white) zapping the air generates nitrogen oxides (blue) that then feed reactions creating tropospheric ozone (green)—the stuff better known in polluted cities as smog. Visit NCAR's visualization gallery* to see dozens of other eye-catching simulations, from El Niño ocean warming to churning cyclones to a rotating Earth that reddens as it heats up over 120 years.

* www.scd.ucar.edu/vg

NET NEWS

A Cheaper Way to Buy Genomic Data

Commercial genome databases, with their multimillion-dollar subscription fees, have long been off limits to anyone but drug companies. Now a few firms are trying to attract academic scientists by offering single-gene searches over the Internet to anyone with a credit card.

The latest is Incyte Genomics, which last month announced a gene-by-gene service at its site (www.incyte.com). Send in a sequence by e-mail, and 2 days later you get the results—free—from a search of Incyte's human cDNA databases, including 50,000 genes not publicly available. The cost to order sequences or physical clones is $3000 or more. Protein and other data will be added later this year, according to Incyte CEO Roy Whitfield, who says the site has already gotten "hundreds of inquiries." At least two other companies, GeneSolutions (www.genesolutions.com) and DoubleTwist (www.doubletwist.com), also have Web sites that offer glimpses of proprietary gene and expression data.

Some biologists say that, although they'd prefer that genomic data be free, the services could be a useful way to find a rare gene or an alternative to sending samples to a lab. "If you can get data you feel you can rely on ... in a cost-effective way, there's value," says William Gelbart, a *Drosophila* geneticist at Harvard University.

HOT PICKS

Model T. Need a rundown of major sites for the rat or fruit fly? This National Institutes of Health hub is a handy launch pad to genome databases and other links for eight model organisms, from mouse to worm to yeast. www.nih.gov/science/models

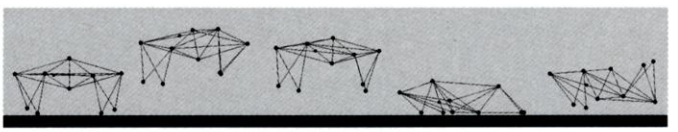
NETWATCH

edited by JOCELYN KAISER

Physics essentials. From a science librarian comes this short and sweet annotated list of major physics Web sites—from directories to biographies to online tutorials.
www.ala.org/acrl/resmar00.html

Lifesavers. Offering a good set of links on conservation biology, from plant databases to a handbook on population viability analysis, is this site accompanying a new biodiversity teaching CD-ROM by biologist E. O. Wilson.
www.islandpress.org/ceb/intro_1/index.ssi

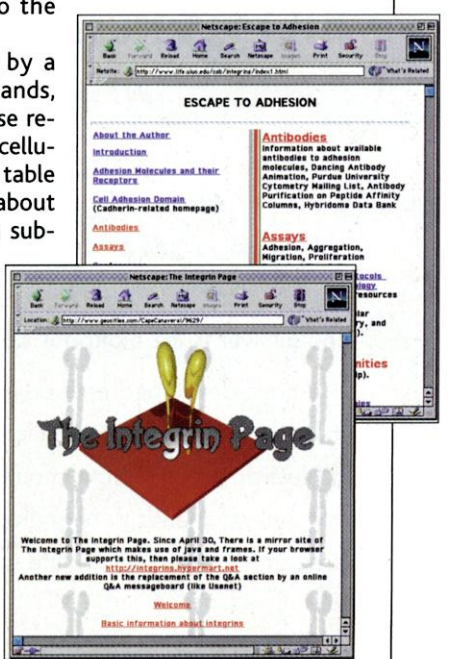
Build it yourself. Although it's mostly entertainment, students may learn a little physics from this page, where creatures made from springs and masses amble across the screen. See what happens when you adjust gravity, friction, spring strength, and amplitude of motion. www.soda.co.uk/soda/constructor



SITE VISIT

Glue of Life

The body's adhesion molecules both stick cells together and transmit signals, playing a critical role in everything from wound healing to diseases such as multiple sclerosis. Integrins, a subset of these sticky molecules, are like fasteners that connect the cell's internal scaffolding to the protein matrix outside.



The Integrin Page,* run by a grad student in the Netherlands, serves up background on these receptor proteins and the extracellular matrix. It also features a table summing up what's known about the 24 types of glycoprotein subunits that make up integrins, including their size, amino acid sequences, and antibody information. In the site's discussion list, scientists trade questions on everything from integrin weights to binding data. For general information on adhesion molecules, visit Escape to Adhesion,† a large collection of links including antibody suppliers, assays, conferences, and molecular biology sites. The site's reference list sums up key papers through 1999. Among outside links is the Cell Adhesion Domain, which contains a dated but still useful directory of research labs.

* www.geocities.com/CapeCanaveral/9629
† www.life.uiuc.edu/csb/integrins/index1.html

Send Internet news and great Web site suggestions to netwatch@aaas.org