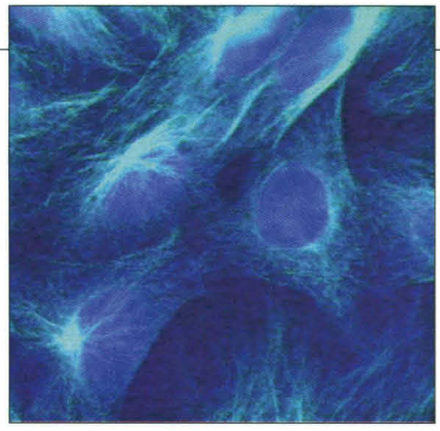
NETWATCH

edited by JOCELYN KAISER



COOL IMAGES

Live Footage

This gauzy view of blue-stained nuclei and microtubules (in Chinese hamster ovary cells), taken by undergraduates in a fluorescence microscopy lab at Kent State University in Ohio, is a star attraction in one of the biggest collections of biology images on the Web.* Posted by government labs, companies, and universities, the 500-plus pictures and movies run the gamut from molecules to viruses to the Visible Human (data from two sliced-up cadavers). Many would be useful for teaching, while others showcase the latest visualization research. A few examples: ball-and-stick models of nucleic acids, an animated trip across a lipid bilayer, a mitosis movie, micrographs of parasites, a computer model of a cowpea mosaic virus, and a simulation of flying through a human lung.

* www.nbif.org/bioimage/bioimage.html#top

HOT PICKS

One giant leap for Internet. NASA celebrates the 30th anniversary of the famous first moon walk on 20 July 1969 with this trove of info on the Apollo 11 mission, including astronaut interviews and links to key documents, timelines, and photos. www.hq.nasa.gov/office/pao/History/ap11ann/introduction.htm

Get the eco buzz. Hunting for dollars for your ecology research, or looking for pointers on which species deserve study in U.S. national parks? This new page of bulletin boards will post grant opportunities and encourage scientists and land managers to swap research ideas. www.cnie.org/exchange.htm

Liberating sex. Hoping to make the "sometimes scattered and hidden research" on sexuality "more accessible," the sexologists at the Kinsey Institute of Indiana University, Bloomington, have set up this database of literature reviews and abstracts. The pilot project focuses on four areas: adolescent sex, risky sex, hormones and women, and male sexual response. www.indiana.edu/~sris

NET NEWS

Web Popularity Contest: Feast or Famine

It may be child's play (and it often is) to set up a Web site these days, but don't count on yours attracting throngs of visitors. Researchers have found that a tiny number of sites are visited by a disproportionately huge percentage of Internet users.

Traditionally, a business's success depends heavily on its location, but that constraint doesn't exist in cyberspace. Bernardo Huberman and Lada Adamic of the Xerox Palo Alto Research Center in California wanted to find out what this means for market share. Tracking visits over 1 day to 120,000 randomly chosen Web sites with access logs supplied by America Online for 60,000 of its users, the researchers found that just 0.1% of the top sites captured 32% of visits. They also found the same pattern for Web sites that offered similar content: For instance, 10% of adult sex sites drew 60% of users.

"This was totally unexpected," says Huberman. "We expected to find things more evenly distributed," because content on one type of site—adult sites, for example—is often similar across all sites. But once a site becomes popular, through advertising or word of mouth, it begins to draw traffic that might otherwise go to equally good sites. This behavior fits mathematical models that describe other "winner-take-all" scenarios, such as a small number of sports stars grabbing most of the endorsement money, according to the Xerox duo's report (www.parc.xerox.com/istl/groups/iea/www/webmarkets.html).

Although the researchers say they can't predict which sites may blossom into winners, they can offer one guarantee: Sitting back and waiting for visitors to find you is a recipe for failure.

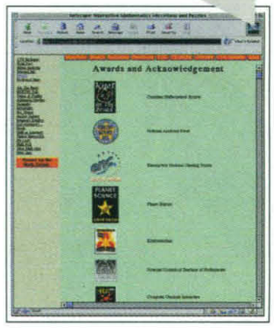
SITE VISIT

Mathematical Wonders

"Learning starts from wondering," writes mathematician Alexander Bogomolny on his Cut-the-Knot Web site, a recreational math treasure chest with an attitude. The site's rich array of hyperlinked articles, interactive Java applets, problems, and puzzles offers intriguing ways for math students and teachers alike to wonder and learn.

Math toys from bygone eras benefit greatly from the Java treatment. Consider Sam Loyd's "15 Puzzle," a popular sliding-piece puzzle from the 1880s. The applet allows visitors to try their hand at it while reading about the underlying theory. After mastering the basic version, they can go on to experiment with variations that would be difficult or impossible to construct in the physical world, such as sliding-piece puzzles on Mobius strips, toruses, or Klein bottles. Even experts will find fresh angles on standard classroom topics. Take "Trisecting an Angle," an elementary method based on sliding a point along a line. Discovered by Archimedes, the trick has been largely ignored in geometry textbooks because it violates the rigid rules for ruler-and-compass constructions. But, 2300 years later, it's perfect for a Java applet.

www.cut-the-knot.com



Bogomolny, who left a professorship at the University of Iowa to work in educational multimedia, also writes a monthly online column for the Mathematical Association of America that's archived here. "My purpose is to help students and teachers change their attitude toward mathematics," he says. Judging from his guestbook, he's succeeding. "I'm awestruck!" reads a typical entry, by a teenager named Erin Donovan. "For the first time since I was 7 I'm actually excited about math."

Science ONLINE

Want to write about science, but disheartened by the scarcity of journalism jobs? You might consider a career as a public information officer (PIO), a kind of liaison between the news media and universities, nonprofits, and corporations. Drop by *Science*'s Next Wave to see what PIOs in North America and the United Kingdom think about their work. www.nextwave.org

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