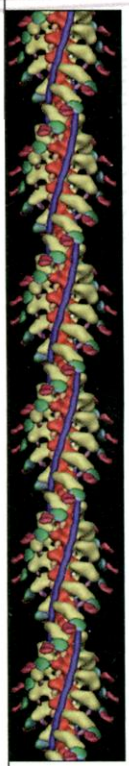
NETWATCH

edited by JOCELYN KAISER



RESOURCES

Mighty Myosin

The graceful pirouettes of ballerinas and the powerful bench presses of Olympic weightlifters both depend on the millions of molecular motors within muscles. At the center of the action are proteins known as myosins. Using a cell's energy supply, myosin molecules drop their bobbing heads onto the filaments of another protein, actin, and tug to make muscle fibers move.

The Myosin Home Page, hosted by John Kendrick-Jones's group at Cambridge University, provides an in-depth view of the 17 classes and 139 different myosin molecules identified to date. Found in eukaryotes as diverse as yeast and humans, myosins play a role not only in muscle contraction but processes such as cellular motility, cytokinesis, and membrane trafficking. The site includes crystal structures and alignments of myosin sequences and domains, a myosin phylogenetic tree, and links to sequences in the Protein Data Bank. Visitors can also browse selected new papers or link to the labs of myosin researchers.

Another valuable part of the site are brief accounts, some written by outside contributors, on topics such as myosin in sensory hair cells and the "actomyosin cross bridge cycle." Some topics are still blank, but Web master Rhys Roberts says, "We will fill the whole site eventually!"

www.mrc-lmb.cam.ac.uk/myosin/myosin.html

DIRECTORIES

Rocks for Web Jocks

Cyberspace seems an especially rich medium for the very visual discipline of geoscience. Web surfers can see erupting volcanoes from space, download all kinds of maps, even track earthquakes through near–real time seismograms. Six years ago, University of Houston geoscience professor John Butler starting compiling such links for his classes and other educators. The result is the voluminous Virtual Geosciences Professor.

Click on Course Resources and you'll find a sampling of sites that Butler says are "good places to visit to get ideas." To delve deeper, check out a database of some 4300 links searchable by type (handouts, data, maps, student projects) or key word. There are plate tectonics animations, maps of the ocean floor, and a course on gems and precious stones. Students can analyze stream gage data or take a virtual field trip with Butler to China's famed Stone Forest (above). The best links bear Butler's "good practices" seal of approval. Virtual Geosciences Professor also offers a Web site of the week and a listserv where profs swap tips on Internet education.

www.uh.edu/~jbutler/anon/anonfield.html

$$E(S(N)) = \frac{1}{N}\sum_{n=1}^{N} S(n) = O\left(\frac{N}{\ln(N)}\right)$$

FUN

Math's Unsolved Mysteries

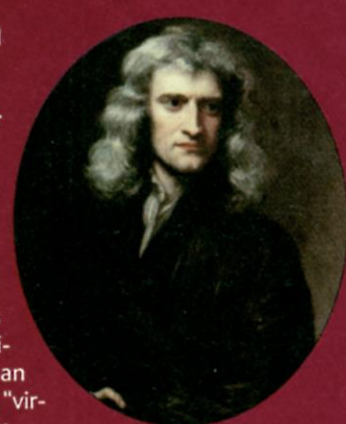
Despite the solution of Fermat's Last Theorem in 1994, mathematicians are still swimming in unsolved problems—many of which can be understood by nonmathematicians. Steven Finch of MathSoft Inc. has collected a goodly number of them and linked to others on one site. It's an invaluable resource for those who wish to tilt at mathematical windmills.

For instance, there's the $3x + 1$ conjecture. Take a number; if it's even, halve it, but if it's odd, multiply it by 3 and add one. The conjecture states that, no matter what number you start with, you'll end up with the number 1 eventually. Nobody has proven this—nor have they proven elementary conjectures about huddling armadillos, crossing moats with wooden planks, and escaping from a forest in the least amount of time. Beware, though; these problems can be dangerously addictive.

www.mathsoft.com/asolve

EXHIBITS

Newtonia on the Net



For most of his days, Sir Isaac Newton saw red. And that's not just a reference to the father of calculus's irascible nature—Newton furnished nearly his entire house in crimson. That's the type of esoterica visitors can expect to glean from newton.org.uk—a "virtual museum" of Newton.

Rather than repeating biographical information already available about the man who first described inertia, Web master Andrew McNab focuses on Newton's everyday life. There are such tidbits as photos of Woolsworth Manor, Newton's childhood home; a chronology; a diagram of his personal relationships; and quotes (including a generous take on "On the Shoulders of Giants"). The site also contains a 1931 book by Richard de Villamil called *Newton: The Man*. Using inventories of Newton's library and his estate at his death, de Villamil extracts such details as the reclusive genius's fondness for backgammon.

For more substantial information, see the list of outside links that explore Newton's contributions to optics, mathematics, physics, planetary science, and the laws of motion.

www.newton.org.uk

Send great Web site suggestions to netwatch@aaas.org

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