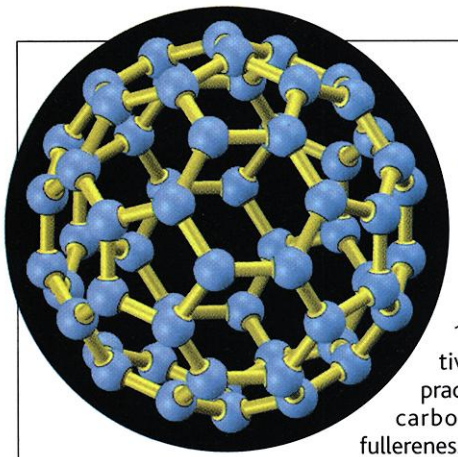
NETWATCH

edited by JOCELYN KAISER



CREDIT: (TOP) J. LAUHER/CHEMISTRY, SUNY STONY BROOK

COOL IMAGES

Having a Bucky Ball

Since their discovery in 1985, buckyballs have captivated researchers seeking practical uses for the tiny all-carbon cages, also known as fullerenes. Several Web sites provide vivid illustrations for anyone curious about what happens when carbon atoms are linked together into Tinkertoy-like spheres. This image (above) of the classic 60-carbon ball comes from the State University of New York, Stony Brook.* Another site there† offers virtual reality images that let users poke around inside a lattice of buckyballs stuffed with alkali atoms such that it poses no resistance to the flow of electrons, or superconducts. Click on "fullerene related" sites to reach more galleries. A site in Japan, for example, features Java applets with which users can twist and zoom in on buckyballs with anywhere from 20 to 100 carbons (many of which have never been created). You can also link to striking images posted by Richard Smalley, co-winner of the 1996 Nobel Prize in chemistry for the discovery of buckyballs, as well as a Michigan site with nifty animations simulating what it might look like when fullerenes melt.

* sbchem.sunysb.edu/msl/fullerene.html

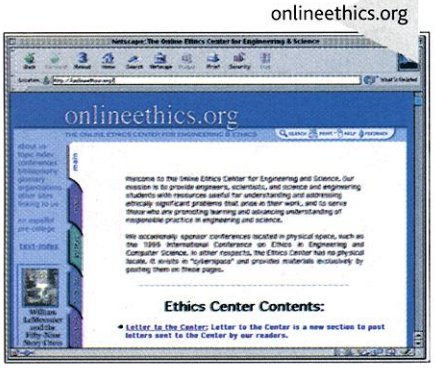
† buckminster.physics.sunysb.edu

SITE VISIT

Right, Wrong, and Shades of Gray

Whose name goes where on a paper? What's it like to serve as an expert witness in a courtroom? Ethical issues such as these inevitably will rear up—and potentially bite you—during your career. If you're struggling with some ethical problem, big or small, or simply seeking resources on the topic, then pay a visit to The Online Ethics Center for Engineering and Science.

onlineethics.org



Although much of the site focuses on engineers and corporate settings, basic scientists will find a large and growing stash of material on research ethics. A section called Moral Leaders profiles people like Rachel Carson, whose book *Silent Spring* galvanized concern over the effect of pollutants on wildlife; and Roger Boisjoly, the engineer who knew about Challenger's flawed O-rings and tried to stop its ill-fated launch. Offering practical advice are a guide to intellectual property for students and a glossary explaining terms such as "plagiarism" and "conflict of interest." The many background documents range from a discussion of the proposed federal misconduct definition to a link to the Helsinki declaration protecting research subjects. Need more personal advice? Send an e-mail to the site's Help-Line.

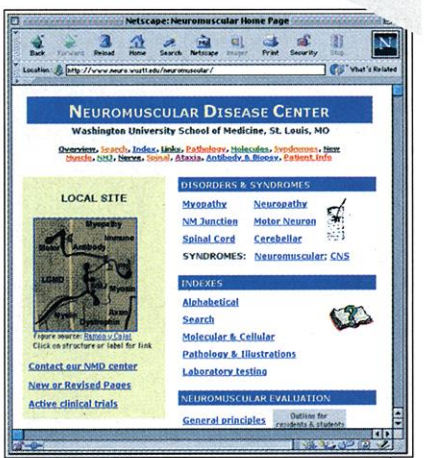
SITE VISIT

Maladies of Nerve and Muscle

Diseases like multiple sclerosis and amyotrophic lateral sclerosis (ALS) often erode nerves for years before paralyzing or even killing their victims. Providing the latest information on these slow-burn diseases is the Neuromuscular Disease Center, a Web site packed with descriptions of the epidemiology, diagnosis, and treatment of several hundred conditions, from ALS to zoster.

The sober accounts—presented in a terse outline style familiar to physicians—can be viewed by disease, by tissue affected (motor neuron, for example), or even by molecule (such as ion channel, neurotransmitter, or snake venom toxin). Also featured are guides for physicians on how to diagnose the disorders as well as a photo gallery of specimens from normal and abnormal tissue. Researchers will find a rich store of data on the genetics and molecular mechanisms behind the diseases, including external links to protein databases and to the Online Mendelian Inheritance in Man, a virtual encyclopedia of genes and genetic diseases.

www.neuro.wustl.edu/neuromuscular



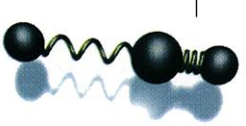
Created by Alan Pestronk, a neurologist at Washington University Medical School in St. Louis, the site offers an illustrated primer on neuromuscular disorders geared toward med students and four Wallet WebSites. These are one-page synopses of diseases and diagnostic tests that Pestronk's students like to print out and laminate for use as pocket reference guides.

HOT PICKS

In vivo, vitro ... silico. If you're a biology student, a computer scientist crossing disciplines, or other newbie to bioinformatics who wants to make sense of jargon like "We did a BLAST search," then check out this handy guide to molecular sequence analysis. It leads readers through "in silico" tasks such as checking a possible gene sequence or comparing a protein among model organisms.
www.sequenceanalysis.com

Pretend universe. Astrophysicists can tinker with how galaxies evolve into huge clusters at this new archive of high-resolution supercomputer simulations of 100 x-ray clusters in a model universe. The site includes Java tools for seeing maps of the clusters and looking at data in virtual reality.
sca.ncsa.uiuc.edu

Physics film fest. Basic physics concepts such as wave interference, polarization, and Brownian motion come alive at this Russian site offering colorful physics animations. Covers waves, optics, mechanics, and thermodynamics.
www.infoline.ru/g23/5495



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