NetWatch

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COOL IMAGES: Mushroom of the Month Club

Glistening in a rainforest on the Olympic Peninsula is this species of honey mushroom, discovered only a couple of years ago by mycologist Tom Volk of the University of Wisconsin, La Crosse. It appears as the February Fungus of the Month on Volk's Web site, which holds more than 1000 fungus photos, from the wonder drug factory *Penicillium* to uncelebrated corn smut and mildews. Although the images may be most useful to specialists--they're sorted by scientific name--the Fungus of the Month grows on laypeople, too. The site describes medical fungi such as *Candida albicans*, which causes yeast infections in people, and summarizes the various vegetable blights and rots that it says "must be overcome" for us to have Thanksgiving dinner. Also check out horror stories such as the slender, white "death angel" mushroom: Eat just one, and within a few days its liver toxin can kill you.

Hot Picks

Eye in the sky. From measuring forest cover to tracking hurricanes and mapping Mars, remote sensing is a vital tool for studying our world and beyond. But just how are these colorful images created? Find out at the Remote Sensing Tutorial. rst.gsfc.nasa.gov/Start.html

Price of fame. Their bank accounts may not show it, but some physicists seem to be rolling in dough. This page holds images of currencies on which physicists have appeared, including Copernicus (Polish 1000 zloty note) and the Curies (French 500 franc). See also the link to physicists on stamps. www2.physics.umd.edu/~redish/Money

Fun and games. Nifty interactive demos have made the University of Minnesota's Geometry Center a favorite math Web site. Now a spin-off company has launched Science U, an educational site with a solar system simulator, a plant and flower library, and, of course, geometry games such as the Triangle Tiler and Tetrahedral Puzzles. www.ScienceU.com

NET NEWS: Patient Charts on the Web?

Foreshadowing the way our medical records may someday be kept, researchers are testing a system for

storing on the Web patient data that can be accessed with a patient's "Smart Card," much like an ATM card. But the new approach raises some thorny issues.

Although other groups are experimenting with storing medical data on the Web, obstetrician Gilad Gross's team at Washington University in St. Louis could be the first to combine this technology with Smart Cards. The patient's card contains basic info, such as vital stats and allergies. More extensive records are stored on a Web server; a patient's doctor can access these data by inserting his or her own card into a reader and typing in a PIN. A 6-month pilot trial launched in December will track the way 125 pregnant women and their physicians use the cards during clinic and hospital visits, compared to a control group with only paper records. The researchers are keen to find out whether the cards influence the pace of treatment decisions, such as how much time a patient spends in an emergency room, and how long it takes for a physician to make a diagnosis.

The new system carries several advantages--and a raft of unknowns. To its favor, the card can tap Web links to "thousands" of conditions, from asthma to rare diseases, Gross notes. Ultimately, he says, medical personnel "anywhere in the world" would be able to access a patient's records. But it's still uncertain what to do, for example, if a patient loses the card, or how to control access to the records, notes Ross Anderson, a computer security expert at the U.K.'s Cambridge University. "The Smart Card salesmen keep on coming out with their pitch, and the medics keep on shooting it down," he says. Gross agrees that researchers will have to tread carefully: "We're at the infant stages of this."

SITE VISIT: Anatomy of a Protein

Want to put a face to a name for such leading figures as immunoglobulins, cytochrome *c*, or the HIV integrase? The Image Library of Biological Macromolecules lets you do just that, with more than 9000 snapshots of proteins and other biomolecules--from short snippets of DNA to complex ribozymes and a few carbohydrates.

A structural biologist can always look up images of molecules in the Protein Data Bank and the Nucleic Acid Database. But the Image Library aims to bridge the gap between specialists and nonexperts. "We wanted to present the structures in a clear and user-friendly way," says Jürgen Sühnel of the Institute for Molecular Biotechnology in Jena, Germany, which hosts the site. Toward that end, the library offers far more than mug shots, featuring colorful ribbon and space models, stick models, and line drawings, in stereo and virtual reality--making it one of the richest sources of visualizations on the Web, Sühnel says. A typical entry includes detailed structural data and links to the original publication and other databases.

The site also provides valuable explanatory material about the building blocks of biomolecules and structural biology in general, such as an introduction to x-ray crystallography. It's even sprinkled with molecular humor. Want to hear the top 10 reasons why you ought to know something about crystallography? Visit and find out.

Science Online

Think you'd like to work in the investment world but can't quite picture yourself standing on the trading floor and yelling? There still may be a place for you, especially if you have an aptitude for math and money. This week *Science*'s Next Wave takes a look at careers in mathematical finance, covering the

skills you need and where to acquire them.
