

edited by Mitch Leslie

DATABASE

Patent Cornucopia

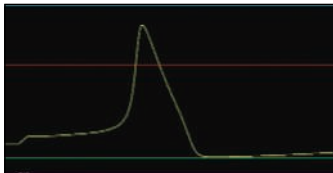
This new database from the U.S. Department of Agriculture (USDA) tallies the more than 11,000 U.S. patents issued from 1976 to 2000 for agricultural biotechnology and processes. The collection, which can be searched by technology or patent owner, provides "a useful picture of who is doing what," according to USDA agricultural economist John King. You can see who holds the most ag-biotech patents (Monsanto) or examine trends (for example, pharmaceutical patents doubled from 1996 to 1997 to more than 140 a year). Researchers can use the data to probe broader questions, such as how the increasing control of patents by a few companies affects discovery. Above, DuPont's herbicide-resistant soybeans.

www.ers.usda.gov/data/AgBiotechIP



TOOLS

The Desktop Neuron



The simulation tool MetaNeuron lets introductory neuroscience students put a virtual neuron through its paces. The free program from neuroscientist Eric Newman of the University of Minnesota, Twin Cities, offers five lessons to help users better understand why neurons fire action potentials—and why they don't. Students can start by exploring the ion imbalance in a resting neuron, adjusting potassium and sodium levels, and varying the membrane's permeability to each ion. They can then tweak values such as temperature and ion-channel density to determine the conditions required for an action potential (above), when ions stream into and out of the neuron.

www2.neuroscience.umn.edu/eanwebsite/metaneuron.htm

EXHIBITS

Life Between Two Continents

"Out of print, out of mind" doesn't apply to the *Biologia Centrali-Americana*, a mammoth encyclopedia on Mesoamerica originally released between 1879 and 1915. Stuffed with facts and images and still consulted by ecologists, systematists, and other researchers, the compendium remains the only comprehensive survey for some groups of organisms that inhabit the region. Just eight libraries hold the full series, but a new site from the Smithsonian Institution lets you browse all 58 volumes dealing with natural history.

The text profiles more than 50,000 species, including nearly 20,000 that were new to science at the time. Top experts penned many of the accounts, packing them with observations, as in this description of the cougar (*Felis concolor*): "In Costa Rica Dr. v. Frantzius says it is found in the upper belt of the primaeval forests ... where the hideous sound of its howling is almost continuously heard in the breeding-season." The nearly 1700 sumptuous illustrations include this painting of a squirrel monkey reaching out to bat away a bee (right).

www.sil.si.edu/DigitalCollections/bca



DICTIONARY

Biologo Decoder

Medical dictionaries abound on the Web, but you might have to hunt for one that defines "virosome" and "E-box elements." You'll find these and more than 20,000 other terms at Medical.WebEnds, from Denver software consultant Chris Endres. Besides covering diseases, drugs, and symptoms, the site includes a good selection of research-related terminology. A virosome, for instance, is a rebuilt viral shell used to deliver

drugs or genes to a cell. And an E-box element is a specific sequence of DNA bases that is involved in transcription. The site has ads, but they're pretty unobtrusive.

medical.webends.com

DATABASE

Sorting Out Disease Genes

Many disease-spurring genes are hard to finger because their impact is subtle or they conspire with other genes.

The new Genetic Association Database from the National Institute on Aging (NIA) compiles evidence for and against more than 1700 genes with mutations, or polymorphisms, thought to be involved in common diseases. The hand-curated site links to PubMed abstracts of more than 5600 studies that have gauged the genes' effects on various disorders, from colon polyps to hay fever. The entries also connect to a host of gene

databases and other information sources. For instance, some listings allow you to scan an NIA biochemistry database to find out which metabolic pathways the gene participates in. You can also limit your search to studies with positive findings.

geneticassociationdb.nih.gov

Send site suggestions to netwatch@aaas.org. Archive: www.sciencemag.org/netwatch

Science

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