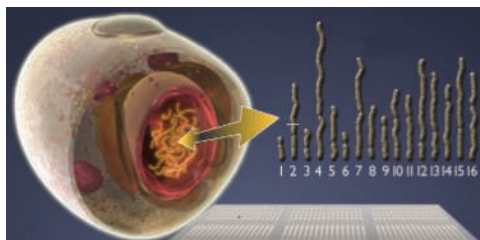


EDUCATION

Learning to Read the Dots

Undergraduates can get up to speed on gene chips with the Microarrays MediaBook, a snazzy animated tutorial hosted by biology professor A. Malcolm Campbell of Davidson College in North Carolina. Using the example of yeast cells growing with and without oxygen (below), the site leads readers through the basics of making and interpreting microarrays. Students can then dig deeper into techniques for analyzing results. They can learn about hierarchical clustering to identify genes that might work together and the significance of fold changes, the alteration in gene activity compared with controls. >>

gcat.davidson.edu/Pirelli/index.htm



LINKS

Bioinformatics Home Base

Biologists who lament, "So many databases, so little time," should check out this portal from the University of Pittsburgh in Pennsylvania. The site provides brief descriptions of more than 1500 free bioinformatics databases and tools in categories such as immunology, genomics, and RNA. If you're looking for data on how pathogens alter gene activity in immune cells, for instance, follow the link to the Macrophage Expression Atlas in the U.K. Or the site can help you sift through the more than 70 databases with information on plant genes and proteins. >>

www.hsls.pitt.edu/guides/genetics/obrc

RESOURCES

Earth Science Defined

If you think that teleconnection has something to do with phone calls or don't know that SCA stands for "snow-covered area," visit this collection of earth science references from NASA.* The site corrals more than 50 glossaries for fields from fisheries to remote sensing. Browsing the meteorology offerings will reveal that "teleconnection" refers to the correlation between weather patterns in distant parts of the world. There's also a list of sites that spell out acronyms and abbreviations. Among the glossaries at this smaller collection from the National Oceanic and Atmospheric Administration† are two pages on El Niño lingo. >>

* gcmd.gsfc.nasa.gov/Resources/FAQs/acronyms.html

† www.cdc.noaa.gov/ClimateInfo/tools.html

Send site suggestions to:

netwatch@aaas.org (Archive: www.sciencemag.org/netwatch)

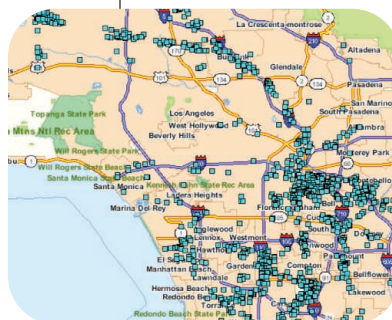


EXHIBITS

STROLL THROUGH CHEMISTRY HISTORY

Gerty and Carl Cori (above) shared more than most married couples, including a lab, a fascination with carbohydrate metabolism, and the 1947 Nobel Prize in physiology or medicine. The pair revealed how the body adjusts its sugar supply by breaking down and rebuilding glycogen. Their work is one of the milestones showcased at The National Historic Chemical Landmarks Web site. The 5-year-old exhibit from the American Chemical Society in Washington, D.C., explores more than 30 firsts in medicine, industry, consumer products, and basic science, adding a few new examples each year. You can also check out locales where revolutions in chemical research or production occurred, such as the Savannah Pulp and Paper Laboratory in Georgia and the Polymer Research Institute in New York City, which helped spark an explosion of interest in the giant molecules. >>

center.acs.org/landmarks/index.html



TOOLS

<< Follow That Smoke

Los Angeles is infamous for throngs of polluting cars, but electronics plants and other facilities that spew toxic compounds also clutter the area (turquoise squares at left). To track down emission sources and locate other pollution trouble spots, ooze over to Enviromapper from the U.S. Environmental Protection Agency. The site offers 11 modules for charting environmental variables. The Envirofacts module, for instance, can pinpoint

everything from contaminated streams to air pollutants. Zoom in and click on any source to find out how much of each chemical it releases. With another feature, users can flush out results of soil, water, and sediment tests conducted at locations such as schools and petrochemical plants after last year's Gulf Coast hurricanes. >>

www.epa.gov/enviro/html/em/index.html