

TOOLS

Mining the *Plasmodium* Genome

The malaria parasite, *Plasmodium falciparum*, has for decades frustrated researchers trying to understand everything from its biochemistry to the function of its genes. A new site featuring data from the Malaria Genome Project, however, offers researchers a powerful collection of tools for mining data and new insights into this leading enemy of public health.

PlasmoDB, developed by researchers at the University of Pennsylvania, Philadelphia, and Australia's Monash University, is built around a relational database. It allows researchers to explore the *Plasmodium* genome based on chromosome location, microsatellite markers, predicted genes and protein features, and the results of BLAST similarity searches. Users can also call up graphical views of the data, run BLAST searches, and even search using a protein motif that they define. PlasmoDB also offers sequence data for other *Plasmodium* species.

For researchers out of reach of high-speed Internet access—in the field under mosquito netting, perhaps—PlasmoDB also comes on a free CD. While not as powerful as the online version, *Plasmodium* GenePlot offers graphical representations of the entire genome, sequence retrieval capabilities, BLAST results, and other aids in the search for knowledge.

PlasmoDB.org

EDUCATION

Peering Into the Cell Nucleus

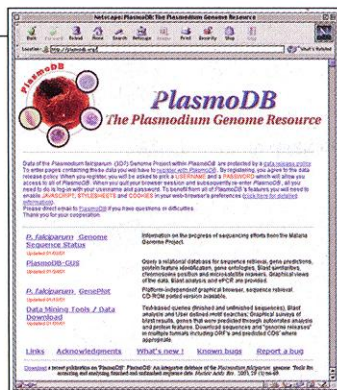
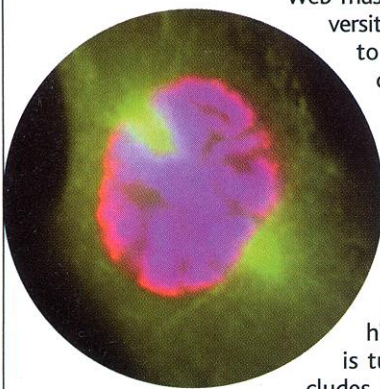
Shining a light into the inner workings of the cell nucleus is no mean feat. But that's exactly the goal of cellnucleus.org. Faced with teaching students about a fast-moving field that lacks a good textbook,

Web master Michael Hendzel of the University of Alberta took it upon himself to help out the nuclear structure community. The site includes movies and animations of the cell nucleus in action, links to research resources, and catalogs of professional opportunities and cell nucleus images. At left, for instance, is a fibroblast stained with fluorescent antibodies during prophase: Red is histone H3, blue is DNA, and green is tubulin protein. The site also includes links to the National Center for

Biotechnology Information's electronic version of the classic textbook, *Molecular Biology of the Cell*.

Still to come: a lecture series that will constitute a full course on the cell nucleus. "I'm aiming at third- or fourth-year college students or researchers new to the field," Hendzel says. The first lecture will be posted to the site, which will soon be changing its URL to cellnucleus.com, in late spring.

www.cellnucleus.org



NETWATCH

edited by DAVID MALAKOFF

SOUNDS

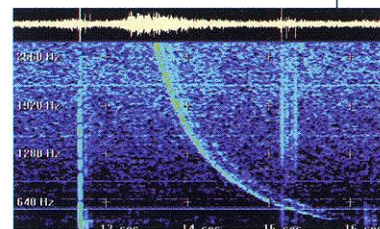
Hear the Flash

Earth is singing. We just couldn't hear it—until now. The odd and eerie atmospheric sounds you can hear at SpaceWeather.com's INSPIRE page are gathered by a very low frequency radio receiver linked to a live feed to the Web.

The earthly symphony is largely the result of lightning and occurs at radio frequencies ranging from a few hundred hertz to 10 kilohertz. The lightning bursts that sound like bacon frying are called "sferics" (short for "atmospherics"). "Tweaks" develop when sferics musically ricochet through the atmosphere. The dynamic spectra of a "whistler"—a sound best described as a spaceship whizzing by in a B movie—are shown above.

To maximize your listening pleasure, try tuning in to this page—orchestrated by the National Space Science Technology Center in Huntsville, Alabama, and the Interactive NASA Space Physics Ionosphere Radio Experiments (INSPIRE)—at dawn or dusk, when the music of our sphere is most inspired.

www.spaceweather.com/glossary/inspire.html



IMAGES

Aeronautical Geology

This bird's-eye view of New Mexico's Shiprock—the internal remains of an extinct volcano—is just one geologic feature captured on Geology by Lightplane, which takes an elevated perspective on this earthly topic. Stocked with aerial photos of mountains, mesas, and canyons taken largely in the mid-1960s, the site is the result of attempts by geologist Louis Maher, of the University of Wisconsin, Madison, to illustrate lectures for a closed-circuit TV class without running afoul of copyright law. Indeed, Maher encourages other educators to download the high-resolution images for their own use. The merely curious will also enjoy perusing a clickable map for breathtaking vistas.

www.geology.wisc.edu/~maher/air.html

Send great Web site suggestions to netwatch@aaas.org