WebWatch

Those Silly Ciliates

Commonly found in fresh water, *Tetrahymena* are ciliated protozoans that are important model organisms for biomedical research. It was in *Tetrahymena* that Thomas Cech, Nobel Laureate in chemistry, discovered ribozymes and it was in this same organism that much understanding of telomeres has been realized. *Tetrahymena* also was the system where the function of histone acetylation was revealed. If you keep guppies, you should know that there's even a disease link between the two. Serving the diverse needs of researchers in the field is the *Tetrahymena* Genome Database where visitors can access sequence information, navigate colleagues' web sites, display their rather unusual genetic code, and access Cornell University's centralized stock repository.

[www.ciliate.org]

Folding Fun

The protein folding problem isn't normally associated with fun. Indeed, the intractable nature of predicting folding commonly leads to frustration, but Foldit is a welcome and thoughtful exception. Created as a tool that is both educational and has research applications, Foldit comes as a downloadable program (Mac, Windows, Linux) available upon free registration. After firing it up, users are presented with a set of folding principles (e.g., hydrophobic side chain associations) in the form of structures that must be optimized by dragging the structural elements to appropriate places in the screen images. Points are awarded for proper placement of side chains, thus graphically teaching principles of folding to all visual learners out there. There's more than fun and games to Foldit, though. Results from players' efforts are helping to answer the question of whether human intuition is useful for predicting folding by computers. Wouldn't that be great?

[<http://fold.it/portal>]

Searchapedia

You've got a great lab web page loaded with content. You want users to find information, so you need a search function, but getting one from providers on your terms can be a problem. What to do? Consider JRank, which aims to be all things to web

Nurturing Nature

If fondness is measured by the amount of effort that goes into a web site, Derrick Ditchburn certainly has an enormous affection for nature. Ditchburn and his son are the two principals of the Dereila Nature Inn, a site that describes itself as "A Virtual Inn for Nature Lovers," and it's loaded with cyber delights. Test your knowledge of birds with the eight-bird crossword puzzles. Assemble online jigsaw puzzles of butterflies, insects, wildflowers, or mammals. Maybe you'll want to cook up a batch of tasty pudding for a chickadee's palate. Probably the most impressive aspect of the site is its all-encompassing set of photos. From birds to bees to flowers and trees, the Dereila Inn has it covered. There's even a newsletter to boot!

[www.dereilannatureinn.ca]

A green lacewing looks to find a place to deposit her eggs among green aphids. Derrick Ditchburn © 2009, www.dereilannatureinn.ca

page creators and has a useful set of indexed information for other users as well—check out the site's impressive collection of online encyclopedias and indexed references. After registering, users enter the URL of the site they want indexed and the frequency of indexing. Then, JRank takes over and does the heavy lifting of cataloging the information. It even provides the HTML code for presenting the search box function to users. With 40,000,000 scanned pages under its belt, JRank has passed a lot of tests. Its price (free) is right and the indexing tools are a breeze to use, making JRank a no-brainer for creating site-specific search functions.

[www.jrank.org]

Seeing the Sites

Regulating gene expression by transcription factors is fundamental to the survival of every cell. The web is bursting with tools for identifying these proteins and their DNA-binding sites, but few offer a visual perspective. Since seeing is believing, and insightful for understanding too, Paul Boardman at Manchester University developed SightSeer, a tool for imaging mapped transcription factor binding sites upstream of eukaryotic genes. Users paste

FASTA-formatted sequence data into a box then select an organism from an impressively long list. SightSeer uses TRANSFAC and SCPD databases for mapping binding locations on the DNAs. Options for narrowing searches are available as well.

[www.chick.manchester.ac.uk/SiteSeer]

Going Viral

Derek Wong is a medical virologist in Hong Kong who worked in the lab that discovered the first-ever human avian influenza infection (H5N1), and he has studied SARS as well. Putting his credentials to work, Derek created Wong's Virology, a web site full of information about viruses, directed largely toward undergraduate and post-graduate students. The site includes practice exams aimed at students of multiple levels. Best of all, Wong's Virology provides excellent summaries of virus information in an easy to access fashion.

[<http://virology-online.com/index.html>]

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