

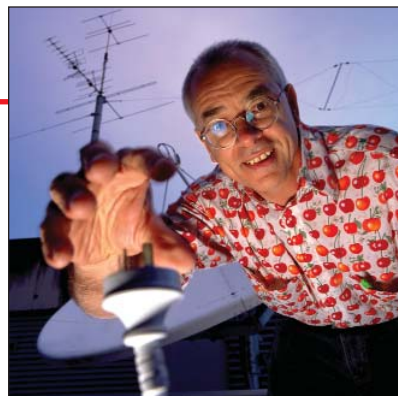
edited by Mitch Leslie

FUN

Oz's Science Guy

What causes bad breath? Why are dirt roads almost always scarred by kidney-jarring corrugations? No question is too daunting for Karl Kruszelnicki, who tackles the serious and the silly in science as a radio show host on the Australian Broadcasting Corp. A former physicist, engineer, and rock roadie, Dr. Karl has made important contributions to human knowledge, winning an Ig Nobel prize, the mock science award, for his study of belly button fluff. You can listen to his hourlong call-in program online Thursdays at 11 a.m. Sydney time, which in winter is 7 p.m. Wednesday in the Eastern United States. Or check out the archive of 5-minute shows and transcripts. There you'll learn that bad breath is caused mainly by bacteria festering at the back of the tongue.

www.abc.net.au/science/k2

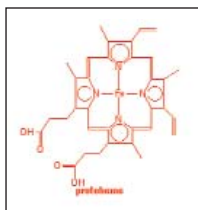


DATABASE

Biochemistry One Step at a Time

Building a molecule of heme (below), the oxygen-hauling core of hemoglobin, isn't simple: Starting from the amino acid L-glycine, it takes eight steps and requires a coenzyme, oxygen, water, and iron. Researchers can scrutinize the details of this and hundreds of other biochemical conversions at BioCyc, sponsored by the nonprofit institute SRI International of Menlo Park, California.

The site furnishes databases of metabolic pathways for humans and 13 microbes, including the stomach-churning O157:H7 strain of *Escherichia coli* and two variants of *Mycobacterium tuberculosis*, causes of the lung disease. By clicking on diagrams for a particular set of chemical transformations, users can glean information such as the molecular weight and structure of



the products and reactants as well as the protein and DNA sequences of the enzymes involved. A program that parses the organism's genome and predicts likely linkages derived most of the pathways. But the site also features MetaCyc, a collection of biochemical information for 150 creatures drawn from the literature. Users can search the databases online, but SRI also offers

downloadable versions and analysis tools that are free upon request for academic researchers.

biocyc.org

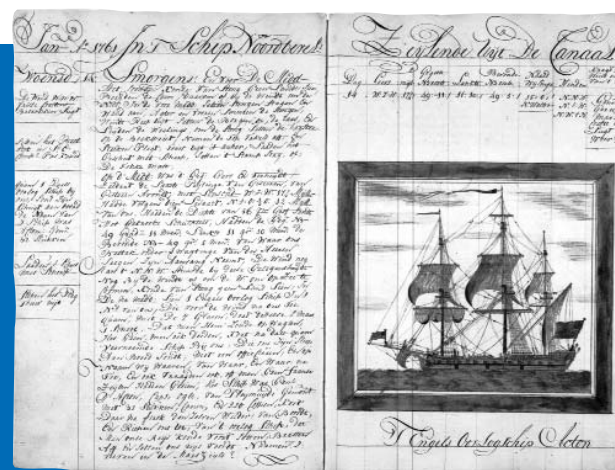
DATABASE

Logging a Century of Climate Change

To deduce past climate, researchers pore over everything from tree rings to ice cores to historical tallies of grape harvests. This new database opens up another source: records kept by sailors, whose lives depended on carefully noting the weather. Sponsored by six institutions in Europe and South America, the Climatological Database for the World's

Oceans, or CLIWOC, amasses weather data from ships plying the seas between 1750 and 1850, the time period when industrial emissions began to transform the atmosphere. Such observations can allow climate scientists to analyze monthly or even daily changes.

To compile the collection, researchers trawled the logbooks of British, Spanish, French, and Dutch ships, translating the crews' meteorological descriptions into numerical values for wind speed and direction, air temperature, and other variables. The site's first cargo of data—derived from more than 1300 logs—came aboard last November; a new load should arrive this spring. Above, the logbook of the *Noord Beveland*, a Dutch ship traveling the English Channel in 1761.



www.ucm.es/info/cliwoc

LINKS

Online Field and Forest

Looking for good Internet resources for agricultural research? Check out AgriFor, a database of annotated links to more than 3000 Web sites, tools, online reports, and other information sources on agriculture, food, and forestry. Compiled by researchers at the University of Nottingham, U.K., the collection includes everything from a roster of herbicide-resistant weeds to a model that gauges how different land management strategies can alter nutrient runoff and pesticide levels in watersheds.

agrifor.ac.uk

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

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