

DATABASE

The Microbial A-List

A researcher who wants to name a new species of bacterium is supposed to follow rules set down by an international committee of microbiologists. But plenty of bacterial names floating around the literature haven't met the standards for official recognition. Find out whether a bug's handle satisfies the requirements at the List of Bacterial Names with Standing in Nomenclature, compiled by microbiologist J. P. Euzéby of the École Nationale Vétérinaire in Toulouse, France. As of the last update on 14 May, the site had amassed more than 7000 valid species names, among them *Corynebacterium diphtheriae* (above). The entries include references to the original description, comments on nomenclature difficulties, and other information.

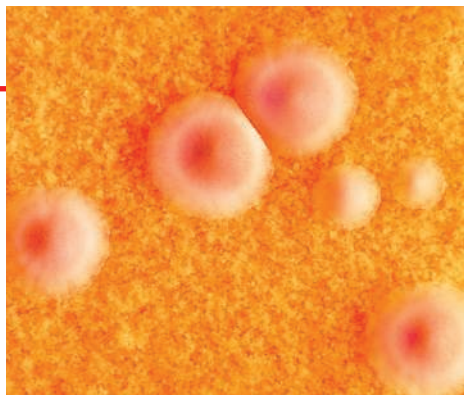
www.bacterio.cict.fr

RESOURCES

Neuroscience in a Nutshell

A well-chosen reading list is a prerequisite for almost any subject, whether it's freshman English or narcolepsy research. To find out what you should read to get up to speed on neuroscience, psychology, and pharmacology, click on Neurotransmitter.net, created by graduate student Shawn Thomas of the University of Illinois, Urbana-Champaign. The site offers compilations of abstracts from recent papers that introduce topics from autism genetics to the connection between migraines and the neurotransmitter glutamate. Some entries link to the full-text articles. Neurotransmitter.net's other offerings include a listing of drugs under study for depression, anxiety, and other mental disorders. You can also browse MetaDB, which links to more than 1000 biological databases on everything from mammalian brain anatomy to the genome of the hepatitis C virus.

neurotransmitter.net



EDUCATION

Physics Through the Centuries

This online exhibit from the Institute of Physics in London lets you zip through more than 5000 years of the discipline's history. Clickable maps summon pop-up windows with brief accounts of major figures and discoveries. You can jump back all the way to the Sumerian culture, which began around 3500 B.C.E. and invented a counting system and basic arithmetic. Or pay a visit to Anaxagoras (circa 490–428 B.C.E.; right), the Greek philosopher who first explained the cause of eclipses and earned imprisonment for arguing that the sun was just a hot rock, not a god. The timeline winds up with modern physicists such as Stephen Hawking and fractal guru Benoit Mandelbrot. "Wormholes" allow you to follow the influence of one thinker on scientists in another time period.

www.physics.org/evolution/evolution.asp



DATABASE

Sugar Storehouse

Long overshadowed by proteins and DNA, carbohydrates are now getting their share of attention because of their roles in immunity, cancer, and other processes. Chemists, glyco biologists, and other researchers can satisfy their craving for basic carbohydrate data at SweetDB from the German Cancer Research Center in Heidelberg. Search the database by categories such as molecular formula, classification, and full or partial structure. You'll nab a 3D image of the molecule, predicted peaks for mass spectroscopy, a list of references, and other results. For another helping of information, sample the site's bibliography of carb publications.

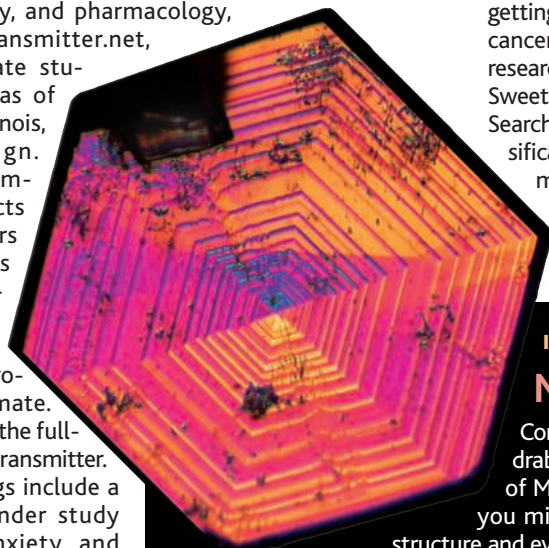
www.glycosciences.de/sweetdb/index.php

IMAGES

Meet a Slippery Customer

Compared with its glittering cousin the diamond, graphite seems drab and grimy. Click on this primer from physicist John Jaszczak of Michigan Technological University in Houghton, though, and you might gain a new appreciation for the substance's intricate structure and even for its beauty. Jaszczak says he created the site to provide information on a member of the carbon family that's often overlooked by mineralogists but that features bonds stronger than a diamond's. Along with backgrounders on graphite's sheetlike structure, the site features a gallery with examples from around the globe, catching the mineral in its many guises: spheres, columns, clumps, and even cones. On this hexagonal sample from California (above), Nomarski differential interference contrast microscopy highlights the spiral pattern that marks the crystal's growth.

www.phy.mtu.edu/~jaszczak/graphite.html



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