

DATABASES

Bug Genealogy

Ribosomal RNA genes, which code for part of the cell's protein-producing machinery, have changed little over time, and researchers use them to tease out the relationships among bacterial species. The recently upgraded Ribosomal Database Project, hosted by Michigan State University in East Lansing, houses more than 200,000 partial and complete gene sequences for the small subunit of the 16S ribosomal RNA. You can search the sequences by size, strain, and the organism's source. If you've got a gene to analyze, tools can help you find out where your bug fits on the bacterial evolutionary tree and identify its closest kin. >>

rdp.cme.msu.edu

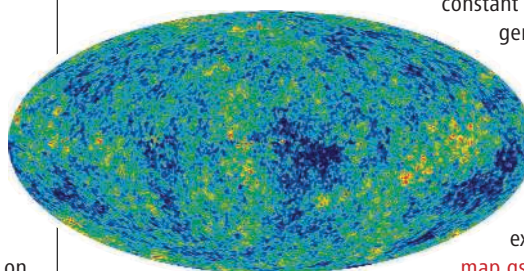
EDUCATION

From the Beginning

What do the latest measurements of remnant radiation from the big bang indicate about the universe's fate? Why do some astronomers want to resurrect an idea Einstein dubbed his biggest mistake? Find answers to these and many other questions about the universe at this NASA cosmology primer. Aimed at students and the public, the tutorial is part of the Web site for the Wilkinson Microwave Anisotropy Probe, which is mapping the energy left over from the big bang more than 13 billion years ago (below). Eighteen chapters tackle big bang basics and recent extensions of the theory. For example, to keep the universe stable,

Einstein penciled a factor called the cosmological constant into his formulation of general relativity—and later regretted it. However, some cosmologists now advocate reviving the constant to explain observations that suggest the universe's expansion is speeding up. >>

map.gsfc.nasa.gov/m_uni.html

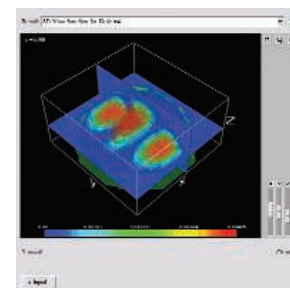


EDUCATION

School of the Small >>

A slew of nanotechnology products has already hit the market, and future advances might someday give us quantum computers or allow doctors to rehabilitate cancer cells rather than kill them. Students and researchers can plug into the fast-expanding field at nanoHUB from the Network for Computational Nanotechnology, a consortium of scientists at seven U.S. universities. The site's centerpiece is a collection of simulators for exploring the physics behind nanotech. One model lets users design quantum dots, blobs of electrons that might eventually replace conventional semiconductors (above). The site also offers audio lectures at undergraduate and advanced levels. Visitors must complete the free registration. >>

www.nanohub.org



Send site suggestions to >> netwatch@aaas.org

Archive: www.sciencemag.org/netwatch



RESOURCES

TAKE THE PLUNGE

Anyone intrigued by ocean life can hook plenty of information at MarineBio.org. Founded by geoscientist David Campbell of Houston, Texas, the site holds a multimedia encyclopedia that describes more than 200 species, with accounts on another 800 in the works. Visitors can cue up audio snippets of blue whale songs or read about the dining habits of the bearded fireworm (*Hermodice carunculata*; above), a bristly relative of earthworms that slurps up reef-building coral animals. Galleries let you tag along on expeditions to havens such as Bonaire in the Caribbean and the coast of Honduras. At the Plankton Forums, browse the latest marine science headlines or discuss newly discovered deep-sea critters with scientists and other ocean fans. The site also features backgrounders on conservation issues such as sustainable fishing and invasive species. >>

marinebio.org

RESOURCES

Call for Writers

If you know a thing or two about animal behavior, remote sensing, pollution, or related topics, you might want to contribute a chapter to the nascent Encyclopedia of Earth. Bucking the trend toward user-written—but sometimes inaccurate—content, the environmental reference will feature some 1000 peer-reviewed articles penned by experts. Sponsored by the nonprofit National Council for Science and the Environment, the project seeks writers and editors. >>

www.earthportal.net/about/steward