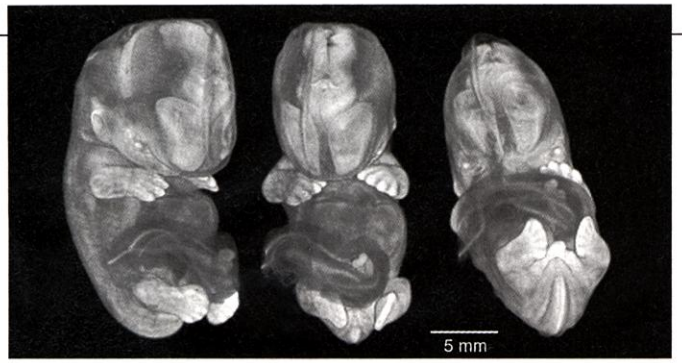

CREDIT: (TOP) B. SMITH

NETWATCH

edited by JOCELYN KAISER

IMAGES

Digital Embryo

In a mere 56 days, a fertilized human egg morphs from a clump of cells to a walnut-size embryo with ears, fingers, limbs, and organs. To help students and scientists peer into this developmental window, the Multi-Dimensional Human Embryo Project spent 3 years loading preserved embryos from a museum collection into a high-resolution magnetic resonance imaging machine. The result? A remarkable atlas* that allows users to leaf through cross sections showing the outlines of organs or view whole embryos from different angles. (Above, an embryo at around 48 days.) This spring the project's leader, Bradley Smith of the University of Michigan, Ann Arbor, will begin disbursing the raw data so other researchers can create visualizations. Also check the link to Smith's atlas of mouse, chick, and opossum embryos.

* embryo.soad.umich.edu/index.html

NET NEWS

PubMed Central Debuts, Global Archive Plan Released

Just a couple of weeks behind schedule, the National Institutes of Health (NIH) on 11 February went live with PubMed Central,* its controversial project to post free, full-text life science articles on the Web. Meanwhile, a separate group that wants to knit together a free global preprints archive has released its final plan.

Debuting in PubMed Central are the research articles from the 21 December 1999 issue of the *Proceedings of the National Academy of Sciences* (*PNAS*) and the full contents of the 1 November 1999 *Molecular Biology of the Cell* (*MBC*). Older issues will be posted soon. There were still some bugs to be worked out as of last week—such as putting equations into HTML—so some articles could be viewed only as PDFs. But PubMed Central editors hope to smooth those bumps by the time eight more journals come online this spring. And several other journals, including "two important ones," are "in the process of deciding," says National Center for Biotechnology Information director David Lipman. Many publishers have been reluctant to join, fearing that giving away content would cut into their revenues (*Science*, 3 September 1999, p. 1466).

An advisory committee that will chart PubMed Central's future will hold its first meeting in late March, Lipman adds, and will be chaired by Nobelist Joshua Lederberg of The Rockefeller University in New York City. But one related project seems to have stalled for the moment. Lipman says "we haven't gotten a lot of queries" showing that life scientists want a server for non–peer-reviewed manuscripts, which NIH has called PubMed Express.

Others are forging ahead with preprint projects, however. A group of digital librarians and computer scientists who met last October to brainstorm about free global access to preprints has just released what it calls the Sante Fe Convention† (*Science*, 29 October 1999, p. 887). The convention describes a way of coding e-print databases so that search engines can scan scattered archives all at once. The Los Alamos National Lab physics archive is already using the new protocol, and several other archives expect to implement it in the coming months. That will open the door to anyone who is interested in building customized search engines and other tools that can cull the participating databases, notes Herbert Van de Sompel of the University of Ghent in Belgium, an organizer of the Open Archives initiative.

* www.pubmedcentral.nih.gov

† www.openarchives.org

SITE VISIT

Bubbling Hot

Spindly tubeworms and "black smoker" chimneys spewing hot, mineral-rich water may be the most familiar features of deep-sea vents. But there's much more to know about these geophysical formations, from their chemistry to the strange bacteria thriving beneath them. To dive into the latest research, visit the Vents Web site.

www.pmel.noaa.gov/vents

In operation since 1984, Vents is a National Oceanic and Atmospheric Administration research project to study underwater volcanoes and hydrothermal vents in the northeastern Pacific. The Vents site offers reports from the program and data, such as volcanic activity records and bathymetric maps. But it's not just for researchers: There are animations, maps, earthquake sounds, and more bells and whistles for students and others curious about the topic. Backgrounders cover areas such as vent geochemistry, the process in which seawater seeps into the ocean crust and reacts to form mineral-rich plumes that rise from the floor. Other pages describe studies at the Juan de Fuca Ridge, where in 1993 researchers for the first time observed an underwater eruption in progress. And don't miss the NeMO Net page, which follows a project to build a real-time Internet satellite link to video cameras and temperature probes installed in an active volcano 480 kilometers off the Oregon coast. Tune in this June for day-to-day dispatches from scientists on the latest NeMO cruise.

HOT PICKS

Bracing for a sun storm. The sun's magnetic cycle will reach an 11-year maximum this year, bringing frequent belches of plasma and radiation that may knock out satellites orbiting Earth—or at least put on a great show for solar physicists. Tune in to this site for news, background, a glossary, and links to the dozen or so space observatories that will be keeping watch. www.solarmax2000.com

Book of species. Yet another among many efforts to catalog the world's species is Ecoport, a Web encyclopedia of plants and animals. Although the site's design is clunky, with patience users can look up taxonomic info on 49,000-and-counting species (mostly agricultural plants and pests) and pull up detailed accounts for some entries. www.ecoport.org

Send Internet news and great Web site suggestions to netwatch@aaas.org