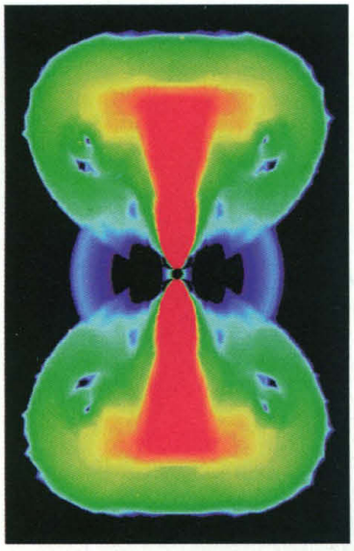
NETWATCH

edited by JOCELYN KAISER

BREAKTHROUGH OF THE YEAR

This week NetWatch looks at sites that delve into the research advances and policy debates described in this Breakthrough of the Year issue—from updates on stem cell funding to tutorials on cosmic microwaves and sites that cut through the hype over bioengineered foods.



CREDIT: (RIGHT) JOANNOPOULOS *ET AL*/MIT

COOL IMAGES

Birthing a Black Hole

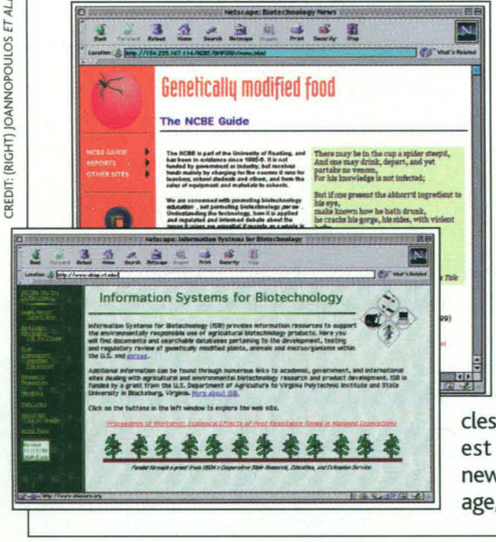
Two jets of gas (red) stream at nearly half the speed of light from an exploding star in this simulation of a collapsar, "a dying spinning massive star giving birth to a hungry black hole," according to University of California, Santa Cruz, grad student Andrew MacFadyen's home page. His and adviser Stan Woosley's collapsar model attempts to explain gamma ray bursts, mysterious flares billions of light-years away that emit more energy in a matter of seconds than our sun will in its lifetime. Observations earlier this year favor a collapsar scenario rather than explanations such as a collision between two neutron stars. MacFadyen has festooned his Web site* with images from his models and promises to add movies "after the holidays."

* www.ucolick.org/~andrew

SITE VISIT

Fielding Questions on Biotech Crops

The often vitriolic debate over the risks and promise of genetically modified (GM) foods—are they "Frankenfoods" or a boon that will allow farmers to slash pesticide use?—has generated a flood of Web sites, many partisan. Here are two that strive for a middle-of-the-road perspective.



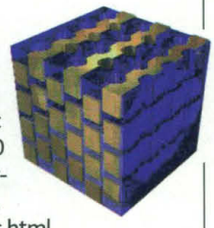
Aiming to "provide a balanced view," especially on the ecological risks of transgenic crops, is this site sponsored by Virginia Tech and the U.S. Department of Agriculture.* One standout feature is a monthly newsletter in which scientists write brief articles summing up the latest research and policy news. (December's coverage, for example, includes a study of gene flow between cultivated and wild beets, and a widely reported meeting in Chicago on altered corn and monarch butterflies.) The site also taps a database of proposed field trials of GM crops. Monsanto leads with over 1500 requests, one can learn; crops in the pipeline range from drought-tolerant Kentucky bluegrass to virus-resistant grapes. Other sections cover risk assessment, from workshop proceedings to biosafety committees.

For policy news in the United Kingdom, try this university site,† where you can read Prince Charles's 10 questions about transgenic foods posed in the *Daily Mail* last summer—along with a scientist's response—or learn which stores have offered GM products. (The list includes Marks and Spencer, which has sold jelly beans made with transgenic corn.) The site also contrasts regulatory approaches in the United States and Europe, and offers a ton of links, from Greenpeace to biotech companies.

The U.S. government has lately launched a campaign to address fears about biotech crops. For speeches, public meetings, links to agencies, and the like, visit this site.‡

* www.nbiap.vt.edu
† www.ncbe.reading.ac.uk/NCBE/GMFOOD/menu.html
‡ www.usia.gov/topical/global/biotech

HOT PICKS



Making light of computers. Photonic crystals, tiny latticelike structures that channel photons, may pave the way for computers that calculate at light speed. The Ultimate Collection of Photonic Band Gap Research Links boasts more than 500 links to research groups around the world, news articles, patents, software, tutorials, and conferences.
www.neci.nj.nec.com/homepages/vlasov/photonic.html

Stem cell hotbeds. As hopes grow for treating diseases with human embryonic stem cells, *Science*'s Breakthrough of the Year, scientists will be closely watching whether Congress intervenes to restrict this research. For a summary of where things stand, see www.jscpp.org/jscpp/Stemcell.htm. Offering daily news articles and other links is www.phrma.org/genomics/cloning/stem.html

Navigating the genome. Offering a sort of road atlas for finding genes is the Genome Channel, a site packed with pop-up Java windows that let you zoom in from chromosomes to annotated DNA sequences. Links take you to sequencing centers for 24 organisms, including humans, mice, and *E. coli.*
compbio.ornl.gov/channel

Microwave hunt shapes up. Probing whether space is curved or flat, cosmologists have been searching for clues in ripples in the universe's microwave background left from the big bang. These tutorials explain the cosmic microwave background for neophytes, as well as intermediate and advanced readers.
www.sns.ias.edu/~whu/physics/physics.html

Worlds apart. Astronomers this year upped their tally of planets outside our solar system to nearly 30 and found the first direct evidence of these worlds when they noticed one crossing its star. This handy page of links on exoplanets includes a table of all candidates found so far.
etacha.as.arizona.edu/~eem/exo.html

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