

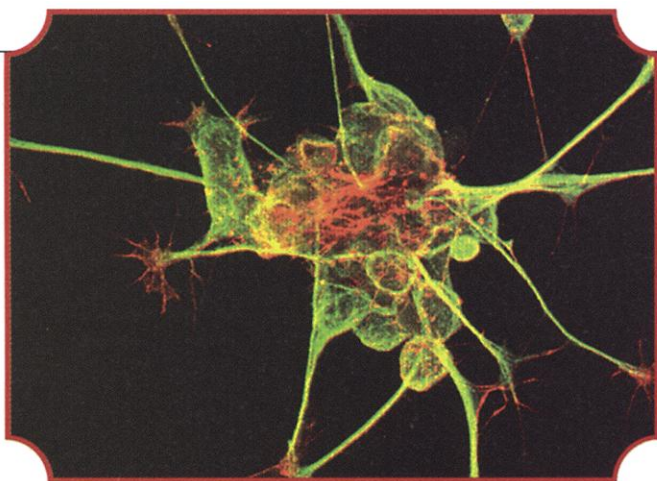
EDUCATION

Greening the Future

Putting a microchip label on a box of fettuccini may seem a far less obvious way to help the environment than, say, planting a tree. But imagine if the label told a warehouse that the fettuccini is on the shelf, your microwave how to cook it, and a recycling plant how to reuse its packaging. The result might be less waste and harm to the environment.

That's just one of the eco-friendly innovations explored by Our Future—Our Environment, a new government-commissioned Web report from the RAND Science and Technology Policy Institute. The report considers how environmental policy may be shaped in the next 2 decades by everything from genomics and consumer choice, to deciding whether to mine the huge supply of methane locked within permafrost and deep oceans. Sprinkled throughout are video interviews with experts and loads of related links. David Rejeski, editor and scholar at the Woodrow Wilson International Center, says the growing site is meant to convey these ideas beyond "scientists and policy wonks" to "a much wider audience."

www.rand.org/scitech/stpi/ourfuture



EXHIBITS

Growth and Form

Researchers who peruse the microscopic world of cells, viruses, and proteins often find themselves at the nexus of science and art. The Wellcome Trust is celebrating this convergence with a show of its Biomedical Image Awards 2001 at its Two10 Gallery in London. If you can't make it to London before the Growth & Form exhibit ends on 4 May, then check out the Flash version on the Web. Above, a winning entry by Kate Nobes and Mark Shipman of The Wellcome Trust shows a cluster of sensory nerve cells under a confocal microscope. The cells' microtubules glow green and actin filaments glow red in the image, in which starlike growth cones tip the ends of long axons.

www.wellcome.ac.uk/en/1/misexhtwo.html

RESOURCES

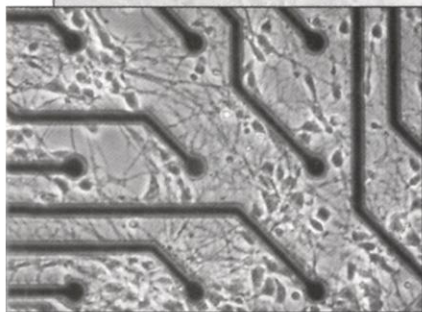
The Road to HAL

It's 2001. But the closest we've come to HAL 9000, the thinking, feeling computer from Stanley Kubrick's 1968 futuristic film *2001: A Space Odyssey* is an IBM supercomputer that's a turtle compared to the harelike speed of the human brain, and shows no signs of consciousness or the capacity to evolve.

Or is it? For the answer, take a look at Artificial Brains.

Since late 1999, Jim Pearn, an artificial intelligence (AI) buff in Munich, Germany, has been tracking developments in AI and its supporting sciences. His site organizes dozens of research projects from around the world into categories such as neuroscience, brain scanning, supercomputers, and neural chips. One-page overviews explain the gist of each project and include illustrations and related links. Perhaps the closest thing yet to a HAL-like machine is COG at MIT, a humanoid robot that can touch things and watch moving objects and will soon have a voice. In another intriguing effort, Caltech scientists are attempting to build an artificial brain by linking living neurons to a computer via a set of electrodes in a petri dish.

www.artificialbrains.com

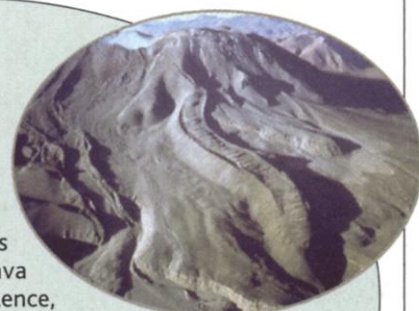


DIRECTORIES

Latin America's Chain of Craters

The mountainous spine of Latin America is dotted with scores of volcanoes. They range from Mexico's Popocatepetl, which began spewing lava and ash in the 1990s after centuries of silence, to Chile's peaks, which include some of the highest (and least studied) volcanoes in the world. The Latin American Volcanoes site holds maps of volcanoes in each country and links to outside Web pages on specific ones—photos, activity reports, live Web cams, and much more. Web master Glyn Williams-Jones of the Open University in the U.K. also maintains global directories of volcanology professors and observatories.

tabitha.open.ac.uk/williamg/LAVolc.html



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