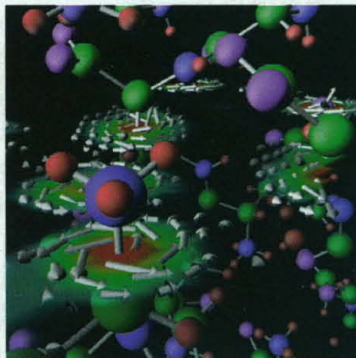


## COOL IMAGES

### Spinning Science Into Art

Abstract art? It is now, but this picture started out as a computer model of how crystalline structures respond to a magnetic field. Called Spin 1998, the work is displayed on the Web site of (art)<sup>n</sup> Laboratory, a studio in Chicago in which artists "explore the relationship between art, science, art history, and new technology" ([www.artn.com/Galleries/index/science.htm](http://www.artn.com/Galleries/index/science.htm)). The studio is known for inventing in 1983 hologramlike Plexiglas boxes—they appear in many museums—that give a stereo effect to scientific images and are intended to "educate and inspire," says (art)<sup>n</sup> founder Ellen Sandor. Although only two-dimensional, the group's Science in Depth Web galleries offer an intriguing collection of science-cum-art mostly made with supercomputers, from fractals to models of viruses and shock waves fanning out from jets.



## HOT PICKS

**Gene family trees.** Need to find out how closely certain proteins or genes are related? Ship them off to Meta-MEME, a new program on the Web that searches protein and DNA sequence data for shared features and evolutionary relationships using a technique called "motif-based hidden Markov modeling." [metameme.sdsc.edu](http://metameme.sdsc.edu)

**Playing God with the solar system.** Find out at the Astronomy Workshop how big a crater you'd create if you hurled a kilometer-wide chunk of ice at the moon or Mars. Other programs let you tinker with planet orbitals, see how gravity affects an asteroid's orbit, and more. [janus.astro.umd.edu](http://janus.astro.umd.edu)

**Quasi-perfect.** Just 16 years ago, chemists discovered "quasi-crystals," a kind of crystal—often alloys containing aluminum—that doesn't have a perfect repeating pattern. You'll find a tutorial and links to review articles, software, and research groups at [www.nirim.go.jp/~weber/qc.html](http://www.nirim.go.jp/~weber/qc.html)



## NET NEWS

### MIT to Build Children's Tech Center

The Massachusetts Institute of Technology (MIT) is making a high-tech foray into educating future generations of university students. Last month the MIT Media Lab announced a \$27 million gift from a Japanese philanthropist for a new center to develop computer technologies that help children learn. On the drawing board are an animated owl that tells folk tales, for instance, and LEGO bricks with computer chips that let kids make their own scientific instruments.

The Media Lab's guiding principle is to teach through hands-on projects rather than books and lectures, says the lab's Mitchel Resnick. This philosophy has received a big endorsement from Isao Okawa, chair of both Japan-based CSK Corp. and video gamemaker Sega Enterprises Ltd., who has tapped his personal

fortune to endow an Okawa Center for Future Children at MIT, to be built by 2003. Instead of reading about animal behavior, students might learn about it using "creaturelike robots with sensors," Resnick says; or they might learn about systems like traffic jams or bird flocks not by diving into differential equations but by "building their own model on a computer."

Another goal will be to hook up children around the world with the Internet, especially in developing countries, as 1000 kids did this past month in a Media Lab online event called Junior Summit '98. Jan Hawkins of the Harvard Graduate School of Education says the lab's approach to making kids "leaders of their own learning [is] great and it's different," although it may not be embraced right away by school systems committed to traditional teaching.

## SITE VISIT

### The Buzz on Bugs

Want to know why raucous bands of cicadas show up in late summer in 13-year and 17-year cycles? For answers to such questions that may be bugging you, or if, for example, you want to peruse the mosquito's genome, look up a beetle fossil, or find a yummy insect recipe, pay a visit to The Entomology Index of Internet Resources.

This no-nonsense directory—it's all text for speedy downloading—offers over 1200 links, says co-Web master John VanDyk of Iowa State University in Ames, which hosts the site. Scores of databases include ones on *Drosophila*'s nervous system and a list of insect pheromones. The medical entomology section offers everything from links on arboviruses (viruses transmitted by arthropods) to a home page about "delusional parasitosis," the irrational belief that one is being hounded by parasites. There are checklists—from Butterflies of Catalonia to Fleas of South Africa—and links to insect collections in museums. Another section leads to resources on integrated pest management—such as strategies to control bugs by siccing them on each other.

The Index, which is searchable, also has compiled links to insect images and movies, including German mutant cockroaches and insects in amber. Then there's the sound page, which offers the whines and chirps of mosquitoes, Japanese crickets, and more. "Some of these things are just a curiosity," VanDyk says. But others are used by researchers to detect insect attacks—for example, the creepy sounds of larvae munching on orange tree roots.

[www.ent.iastate.edu/list](http://www.ent.iastate.edu/list)



## Science ONLINE

Engineers with training in biomedicine are staking claims at the intersection of biology, physics, and chemistry to create new classes of drugs, artificial organs, and robots that perform microsurgery. This week Next Wave profiles young biomedical engineers in industry and academia and explores the rapid growth of their area, which some are calling "the engineering field for the next millennium." [www.nextwave.org](http://www.nextwave.org)

Send Internet news and great Web site suggestions to [netwatch@aaas.org](mailto:netwatch@aaas.org)