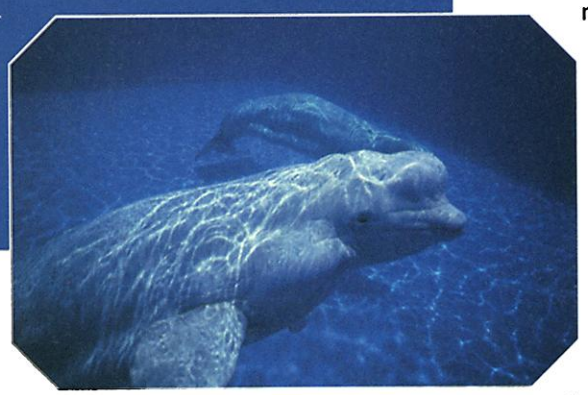
EDUCATION

Whale Sighting

Bone up on your knowledge of whales, dolphins, and porpoises at Cetacea.org, a collection of backgrounders on all 81 known species of cetaceans. The streamlined accounts by a British writer and whale aficionado deliver the basics on appearance, classification, behavior, food, and habitat. You can investigate the lives of species such as the bottle-nosed dolphin (*above*) and the beluga whale (*below*), a vocal inhabitant of the arctic seas. Centuries of slaughter have nearly extirpated some species, and the site is chock-full of grim statistics. For instance, blue whale numbers have fallen 99% in the last century, to only 3000 animals, and experts fear that populations of some protected species, such as the northern right whale, may never recover.

www.cetacea.org



TOOLS

Snapping Up SNPs

Biomedical researchers are keen to winkle out single-nucleotide polymorphisms, or SNPs, sites in the genome where the DNA code varies from person to person by a single letter. Already implicated in diseases such as sickle cell anemia, SNPs may also influence our susceptibility to chronic killers such as diabetes, heart disease, and cancer. PicSNP, a database from the University of Tokyo, simplifies the job of finding SNPs that may be medically significant. From the 1.2 million catalogued SNPs in the human genome, curator Hangil Chang gleaned some 3800 that change the amino acid sequence of proteins. You can search for these SNPs by the name or function of the gene. Along with the gene's sequence and background on its involvement in disease, you'll find links to the SNP database from the National Center for Biotechnology Information, where you can access chromosome maps and 3D images of the protein's structure.

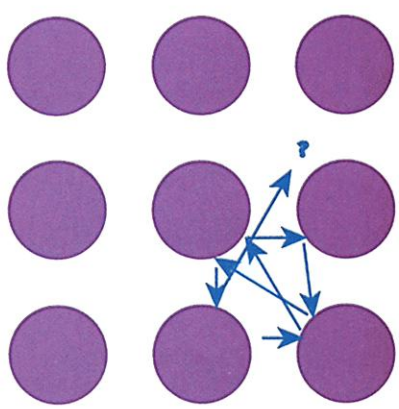
plaza.umin.ac.jp/~hchang/picsnp

CHALLENGE

Decimal Decathlon

Many people think that to solve a mathematical problem you can just "throw it at the computer." Most researchers don't pay much attention to the algorithms computers actually use. But numerical analysts are paid to worry about such things—because seemingly simple problems can require mountains of algorithmic ingenuity. To prove it, Nick Trefethen, a numerical analyst at Oxford University, has thrown down the computational equivalent of a gauntlet, offering $100 for the most accurate answers to a set of 10 mathematical problems.

The problems and the rules of the competition are downloadable from the Society for Industrial and Applied Mathematics (SIAM). One puzzler, for example, asks for the future location of a photon bouncing around in a forest of circular mirrors (*left*). Others look like exercises you might find on a calculus exam—proctored by the Marquis de Sade. The questions are particularly challenging because the seemingly straightforward solution yields the wrong answer. According to Trefethen: "If anyone gets even half the problems, I will be impressed." Entries are due by 20 May, and Trefethen will publish the answers and the names of the winners in the July/August issue of *SIAM News*.



www.siam.org/siamnews/01-02/challenge.pdf

RESOURCES

Let's Make a Deal

Industrious, bright, creative immunologist with jaw-dropping cancer vaccine discovery seeks generous, patient, well-off partner for possible long-term relationship. Must like rodents, late nights in the lab.

Fortunately, scientists don't have to resort to personal ads to find money for their pet projects. Instead, they can post an alluring description of their work at Technology Marketplace, a site sponsored by the European Commission that helps researchers find support for their bright ideas. The goal is to attract companies, venture capitalists, and other potential backers who can underwrite further research and development, marketing, or manufacturing, or just share information. So far, the site boasts 95 practical projects in biology, medicine, energy, the environment, telecommunications, and industrial technology. Some of the novel proposals that need sponsors include a method of generating energy from the carcasses of animals with mad cow disease, a test for detecting *Salmonella*-infected animals, and designs for more streamlined helicopter fuselages. Unlike the personal ads, posting a project is free, and you won't have to supply a snapshot or identify your least favorite vegetable.

www.cordis.lu/marketplace

Send great Web site suggestions to netwatch@aaas.org

CREDITS: (TOP TO BOTTOM) M. HERKO/OAR/NATIONAL UNDERSEA RESEARCH PROGRAM; CORBIS