

## Microsoft cofounder funds mouse brain atlas project

Microsoft cofounder Paul Allen in September donated \$100 million to launch a nonprofit research institute that will try to craft a genetic atlas of the mammalian brain. By studying the human-like genome of the common mouse, scientists at the Seattle-based Allen Institute for Brain Science plan to uncover each of the roughly 20,000 genes that build and drive the human brain.

The new institute's first endeavor—the Allen Brain Atlas project—is the creation of a three-dimensional gene expression map that will outline the function of every gene in the brain. The map will include anatomical resolution on the level of 'nuclei', or groups of specialized nerve cells. Using high-power computing technology, institute researchers plan to analyze about 10,000 genes a year—a pace that far exceeds other ongoing 'brain map' projects. The US National Institute of Mental Health's Brain Molecular Anatomy Project, for instance, probes only 600–800 genes each year.

The institute's researchers—whose numbers could eventually reach 100—plan to complete the map in three to five years. The achievement could spawn treatments for neurologic diseases and shed light on how genes underlie behavior and other traits such as language, memory and emotion. The scientists plan to publish their results in a free online database, and hope to release their first round of data in early 2004. *PB*

## Nobel Prizes bestowed for MRI, membrane channels

For their pioneering work on magnetic resonance imaging, two scientists have won the 2003 Nobel Prize for medicine. Research in the 1970s by American Paul Lauterbur of the University of Illinois at Urbana-Champaign and Briton Sir Peter Mansfield of the University of Nottingham led to the widely used diagnostic technique that produces three-dimensional images of internal organs.

The Nobel Prize for chemistry went to US scientists Peter Agre of Johns Hopkins University and Roderick MacKinnon of The Rockefeller University. Agre was honored for his work on water channels and McKinnon, whom *Nature Medicine* in 2001 pegged as odds-on favorite to win the prize (*Nat. Med.* 7, 648; 2001), won for his work on ion channels. *PB*

## NIH funds biodefense labs

Amid public concerns over safety, federal health authorities in September announced that they have selected Boston University and the University of Texas Medical Branch at Galveston to each house a top-security level 4 biodefense research facility. The US National Institute of Allergy and Infectious Diseases will award \$120 million to each university to construct a National Biocontainment Laboratory, where scientists will develop vaccines and treatments against deadly pathogens such as Ebola and bubonic plague.

The institute also plans to grant awards of up to \$21 million for the creation of nine new Regional Biocontainment Laboratories to provide support to the national laboratories (*Nat. Med.* 9, 805; 2003). Much of the research at the new facilities will originate from the eight recently announced Regional Centers of Excellence for Biodefense and Emerging Infectious Diseases (*Nature* 425, 110; 2003). The new consortia will each receive \$50 million over five years to advance bioweapons research.

The two national laboratories are scheduled to begin operations by 2008. They will bring to five the number of level 4 research centers in the country. Citizen groups are denouncing the decision to build the laboratories near densely populated neighborhoods: community advocates plan to sue Boston University over safety and environmental concerns. *PB*

## WHO adopts bold plan for AIDS drug distribution

Calling the failure to distribute drugs to AIDS-ravaged countries a "global health emergency," the World Health Organization (WHO) in September announced its plans to provide antiretroviral drugs to 3 million patients by 2005. Worldwide, nearly 6 million HIV-positive individuals—the majority of them in sub-Saharan Africa—require AIDS drugs to survive, but only about 300,000 receive them.

The WHO's director-general Jong-Wook Lee says the agency will implement emergency response mechanisms similar to those it used during the outbreak of severe acute respiratory syndrome and during health emergencies in war-torn countries. The organization plans to dispatch emergency response teams to make regional assessments on how best to improve access to AIDS drugs. It will also establish an AIDS Drugs and Diagnostics Facility to help countries purchase drugs more efficiently.

Among other highlights of the new initiative is a plan to publish simplified treatment guidelines and create tools to effectively monitor all antiretroviral programs. The WHO will unveil a global AIDS action plan on 1 December, World AIDS Day.

The agency plans to increase its AIDS package from \$50 million to \$150 million a year to support the new initiative, and will solicit additional funding from governments worldwide. *PB*

## The truth about rats and dogs

After Cc the cat and Idaho Gem the mule, scientists in September presented 10-month-old Ralph, the world's first cloned rat. With a small scientific trick, researchers at France's Institut National de la Recherche Agronomique and the biotechnology company GenOway created duplicates of the popular laboratory animal.

Genetically altered rat clones will help research on diseases such as diabetes and cancer. But scientists have struggled to clone rats because their eggs begin to multiply immediately after their extraction from the animal. The French team bypassed the problem by exposing the eggs to an inhibitor protein that blocks their activation. Three live pups—and one that died after birth—emerged from 129 cloned embryos that the researchers injected into two females. The clones have since been mated to produce two more rats.

News of the cloned rats followed another advance in genetics—the first draft of the canine genetic sequence. Using Shadow, a family poodle, as their specimen, researchers at The Institute for Genomic Research and the Center for Advancement of Genomics announced that dogs carry roughly 2.4 billion DNA base pairs (*Science* 301, 1898–1903; 2003). Dogs are good models for medical research because they share about 360 of the same genetic disorders as humans. The US National Institutes of Health is expected to finish a more complete canine sequence in 2004. *PB*



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