RANDOM SAMPLES

edited by CONSTANCE HOLDEN

Texas Telescope Unveiled

THOMAS A. SEBRING/UNIV. OF TEXAS MCDONALD OBSERVATORY

Cost effective. A tracker supports optical instrumentation mounted above the mirror.

A unique new optical telescope, built by a consortium of five U.S. and German universities, will be dedicated in the Davis Mountains of west Texas on 8 October. The $13.5 million Hobby-Eberly Telescope (HET) at the University of Texas McDonald Observatory in Fort Davis deploys a mirror 11 meters in diameter, the largest optical collecting surface in the world.

One of HET's most attractive features is its price, about a sixth that of the 10-meter Keck telescopes in Hawaii. The savings is a result of a design "fundamentally different than any other optical telescope," says project scientist Larry Ramsey of Pennsylvania State University at University Park. The HET tracks objects as they move across the night sky not by rotating the entire telescope, but by moving a few focusing instruments suspended above the primary mirror, which consists of 91 identical 1-meter hexagonal segments.

That design has its limitations—the telescope covers only about 70% of the sky area accessible to other optical telescopes. And it has a small field of view, making it best suited for obtaining light spectra rather than images of astronomical objects. This means that although it can obtain information about their composition, temperature, rotation, and distance, it can't measure their size.

Astronomers will use the telescope to look for planets around other stars, to learn more about the dark matter that surrounds galaxies, and to refine theories about star birth and death.

Alleged Biotech Thief Acquitted

A Boston jury last week acquitted a Boston University professor of charges that he conspired to provide foreign agents with purloined hamster cells engineered to produce the costly hormone erythropoietin (EPO). The 16 September Federal District Court decision came after the defense argued that molecular biologist Vemuri Bhaskar Reddy was just fooling when he told undercover FBI agents that the cells were stolen. "It was a sales pitch," said Reddy's defense counsel, Boston attorney Roger Witkin.

From 1982 to 1988, Reddy worked at Integrated Genetics (IG), a Framingham, Massachusetts, firm that engineered a hamster cell line to produce EPO, a hormone used to treat anemia. The California biotech firm Amgen eventually won EPO patent rights, and IG put the project aside. U.S. attorneys charged that Reddy stole the altered cells from IG and arranged, with acquaintance Subrahmanyan Kota, to sell them to contacts they thought were KGB agents who wanted to make black-market EPO (*Science*, 23 December 1994, p. 1941).

But Reddy claimed the cells were not stolen. If he had told his contacts—actually undercover FBI agents with video cameras—that they were not from IG, said Witkin, "nobody would have wanted to buy them." Kota, who is to be tried on related charges, was the prosecution's main witness, but he admitted that he had no proof of the origin of Reddy's cells. Two Yale University biologists also testified—contrary to earlier claims by scientists from Genzyme Corp., IG's owner—that DNA analysis showed Reddy's cells were not from IG's cell line.

"I've lost so much," says Reddy, who has been on leave for 3 years from BU, where he was well known for his work sequencing viral genomes. He says he hopes to go back to BU "immediately."

Lasker Awards

Genes dominated this year's prestigious Albert Lasker medical research awards, announced on 22 September. Honors for basic research go to Mark S. Ptashne of the Memorial Sloan-Kettering Cancer Center in New York City for work on the molecular basis of gene regulation, including isolation in 1967 of the "lambda repressor," which turns genes on and off. The "father of medical genetics," Victor A. McKusick of Johns Hopkins University, got a special achievement award for his central role in cooking up the Human Genome Project. Another Hopkins researcher, ophthalmologist Alfred Sommer, dean of the School of Hygiene and Public Health, got the clinical research award for promoting vitamin A to prevent blindness and infections in developing countries.

McKusick

Ptashne

Sommer

How to Prepare a Bog Body

Inspired by the perfectly preserved skin of Lindow man, a 2000-year-old body found in an English peat bog in 1984, three students in Belfast have added to knowledge about "bog bodies" with a unique experiment that earned them the top prize of $4500 at the 9th European Union Contest for Young Scientists in Milan this month.

Fiona Fraser, Emma McQuillan, and Ciara McGoldrick, 17- and 18-year-old students at Dominican College, studied stillborn pigs—which are biochemically similar to humans—buried for 10 months in a local peat bog. It's known that preservation requires acidity, a lack of oxygen, and the antibacterial compounds in the accumulated layers of dead sphagnum moss that make the bog. But timing, they found, is also critical.

From test tube observations, they found that the release of protein-degrading enzymes from a pig's liver peaks between 48 and 72 hours after death. As a result, a piglet that was buried 3 days after death was only mush and bones 10 months later. Another, buried 3 hours post-mortem, remained pink and preserved.

"From a forensic perspective, this work is unique," says forensic entomologist Wayne Lord of the Federal Bureau of Investigation Academy's child abduction and serial killer unit in Quantico, Virginia. "No one has looked at bog environments" in studies of human decomposition, he says. The work may also interest archaeologists. "We [think] that the distance [of bodies] from the path is related to how they died," says Fraser. Normal burials, she explains, were made near paths, but when people went to the effort to speed corpses into more inaccessible areas, that suggests a special purpose—such as a ritual sacrifice.

The students, who all want to be forensic pathologists, will present their theories in Dublin later this year at an international meeting run by the Irish Peatlands Preservation Council.