

We Hear That

In Brief

Last month, **Harold Kroto**, who won the 1996 Nobel Prize in Chemistry, joined the chemistry faculty of Florida State University in Tallahassee as a Francis Eppes Professor. He comes to FSU from the University of Sussex in the UK.

The French Academy of Sciences bestows its highest honor, the Grande Médaille d'Or, in Paris this month on **David Gross**, director of the Kavli Institute for Theoretical Physics at the University of California, Santa Barbara, and one of this year's physics Nobel laureates (see the story next month). The academy is recognizing his contributions to quantum field theory and particle physics and notes, in particular, his role in the establishment of quantum chromodynamics. The citation adds that Gross has also made "essential contributions to superstring theory."

Obituaries

Francis Harry Compton Crick

In the early 1900s, relativity theory and quantum mechanics sparked a scientific revolution that laid the foundations of today's physics. Five decades later, in April 1953, the discovery of the structure of DNA by biologist James Watson and physicist Francis Crick started another revolution that forced biology to the fore of scientific thought.

DNA is so central to modern biology and its structure so elegantly intertwined with its function that the names Crick and Watson will be remembered as long as Albert Einstein and Max Planck. Francis, in particular, is responsible for much more than the discovery of DNA structure. He was the most influential figure in the first decade of molecular biology and the one who shaped its beginnings. As Jacques Monod once said to Horace Freeland Judson, author of *The Eighth Day of Creation* (Jonathan Cape, 1978), "No one man discovered or created molecular biology. But one man dominates intellectually the whole field, because he knows the most and understands the most. Francis Crick."

Francis Harry Compton Crick died

On 1 September, **William Trischuk**, professor of physics at the University of Toronto, became the new director of the Canadian Institute of Particle Physics, where his term is slated to end in June 2009. He succeeded **Richard K. Keeler**, who resigned this past August to join the University of Victoria as its associate vice president of research.

To help launch its new research program in modern cosmology, the University of California, Irvine, has hired four new assistant professors in its department of physics and astronomy. **Manoj Kaplinghat** arrived in July from the University of California, Davis. **Elizabeth Barton**, who was at the University of Arizona, Tucson, and **James Bullock**, who was at the Harvard-Smithsonian Center for Astrophysics, came on board in September. **Asantha Cooray** of Caltech will join UCI in January 2005.

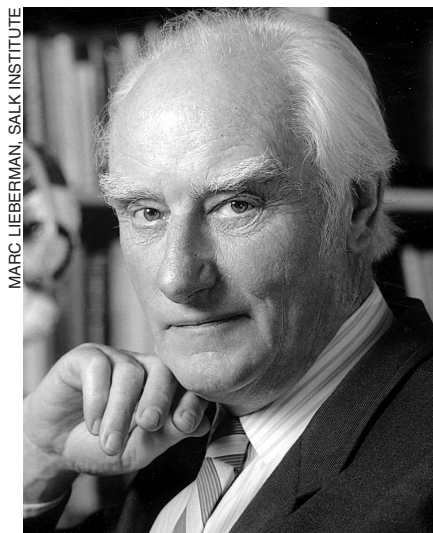
he worked in military research on the design of magnetic and acoustic mines. After the war, he refused—he joked—a "tenured" job at the British Admiralty so that he could become a PhD student again. He was attracted then and later by two major mysteries: of life and of consciousness. He decided to study biology.

Thanks to funding set up to support the entry of physicists into biology, Francis was accepted in a newly formed unit at the Cavendish Laboratory to study the structure of proteins using x-ray diffraction. His physics background helped him quickly become expert at the interpretation of diffraction patterns using a combination of imagery and logic that was based on mathematics. In teaching Watson, a newly arrived American postdoc at Cavendish, how to analyze these patterns, he toyed with the idea of writing an instructional booklet entitled *Fourier Transforms for Bird Watchers*. (Watson had become a biologist because of his initial interest in bird watching.) The structure of DNA was not Francis's thesis but was what he and Watson presciently thought to be the most important question in biology.

The story of the discovery has become an almost mythic tale in science, partly because of Watson's bestseller *The Double Helix* (Weidenfeld & Nicolson, 1968). Francis, rational as always, wrote in his autobiography *What Mad Pursuit: A Personal View of Scientific Discovery* (Basic Books, 1988) that "the path to [DNA structure's] discovery was, scientifically speaking, rather commonplace. What was important was not the way it was discovered but the object discovered—the structure of DNA itself." In 1962, Francis, Watson, and Maurice Wilkins received the Nobel Prize in Medicine for the discovery of the structure of DNA.

In the decade following the discovery, Francis's contributions were much more than discovering that genes were the chapters of a gigantic book in a digital code written on DNA molecules. He also correctly deduced how that code is translated into proteins, was the first to compile the list of the 20 amino acids of which proteins are made, predicted the existence of an adaptor molecule that is now called transfer RNA, discovered that the code was written in three-letter words, and was instrumental in cracking the genetic code itself.

In 1957, he spelled out two key



MARC LIEBERMAN, SALK INSTITUTE

Francis Harry Compton Crick

on 28 July 2004 in a hospital in San Diego, California, after a long battle with colon cancer. He had been working on a new scientific paper until a few hours before his death.

Francis was born in Northampton, England, on 8 June 1916 and later studied physics at University College London. The German bombing during World War II interrupted his PhD thesis work on the viscosity of water under high pressure. During the war,