



---

## Curriculum Vitae Prof. Dr. Sydney Brenner



**Name:** Sydney Brenner

**Born:** 13 January 1927

**Major Scientific Interests: Molecular biology, cell biology, C. elegans, apoptosis, cell death, messenger RNA (mRNA)**

Sydney Brenner is a British biologist and one of the pioneers of genetics and molecular biology. He is considered the “father” of the nematode *C. elegans*, because he established that worm as a model organism for research. In 2002 he was awarded the Nobel Prize in Physiology or Medicine along with H. Robert Horvitz and John E. Sulston. The Nobel committee praised his work in the area of genetic regulation of organ development and cell death.

### Academic and Professional Career

- 2000 Research professorship at the Salk Institute for Biological Studies in La Jolla, USA
- 1996 - 2000 President and Research Director, La Jolla, USA
- 1987 - 1992 Director of the Department of Molecular Genetics of the Medical Research Council (MRC), Cambridge, UK
- 1979 - 1986 Director of the Laboratory of Molecular Biology of the Medical Research Council (MRC), Cambridge, UK
- Postdoctoral fellow, Virus Laboratory of the University of California, Berkeley
- 1954 Ph.D. in Chemistry, Oxford University, UK
- 1947 M.D.  
Studies of Medicine, University of Witwatersrand, Südafrika

## Honours and Awarded Memberships

2009	Grand Cross of the Order of Prince Henry
2002	Nobel Prize of Physiology or Medicine together with John Sulston und Robert Horvitz
2002	Dan David Prize, Dan David Foundation, Israel
2002	March of Dimes Prize in Development Biology
2000	Albert Lasker Award for Special Achievement in Medical Science
2001	Novartis Drew Award in Biomedical Research
1992	King Faisal International Prize for Science
1988	Waterford Bio-Medical Science Award, The Research Institute of Scripps Clinic
1987	Harvey Prize, Technion - Israel Institute of Technology
1987	Prix Louis Jeantet de Médecine
1986	Rosenstiel Award, Brandeis University
1981	Ciba Medal, Biochemical Society
1980	Hans Krebs Medal, Federation of European Biochemical Societies
1978	Gairdner Foundation International Award
1975	Prix Charles-Léopold Mayer of the French Académie des sciences
since 1975	Member of the German National Academy of Sciences Leopoldina
1974	Royal Medal of the Royal Society
1971	Albert Lasker Medical Research Award
	Fellow of the Royal Society
	Foreign member of the French Académie des sciences
	Foreign member of the US National Academy of Sciences

## Major Scientific Interests

Sydney Brenner is one of the pioneers of genetics and molecular biology. He is considered the “father” of the nematode *C. elegans*, because he established that worm as a model organism for research. In 2002 he was awarded the Nobel Prize in Physiology or Medicine along with H. Robert Horvitz and John E. Sulston. The Nobel committee praised his work in the area of genetic regulation of organ development and cell death.

Brenner’s scientific career is closely linked with the nematode *C. elegans* (*Caenorhabditis elegans*). The worm is just one millimetre long, is transparent and has a life expectancy of 20

days. In 1963, Brenner described the worm, in an application, as a good organism for his research. It was even more suitable than expected and was especially good for studying organ development, cell destiny, the effects of genetic mutations, and ageing processes. By 1998, the worm's entire DNA had been decoded, and because humans share more than half of their genes with these nematodes, they can be used to research many processes.

Using *C. elegans*, Brenner also described the first genes to play a significant role in apoptosis. Apoptosis is a sort of cell "suicide"; the affected cell's volume shrinks, and its core disintegrates. The process is important for the control of tissue size, rejuvenation of tissue, and elimination of deformed cells. Insights into cell death are very important for medicine, because apoptotic processes are involved in many diseases, such as heart disease and neurodegenerative conditions like Alzheimer's and Parkinson's diseases. In cancer, however, the process of apoptosis is often disrupted by a mutation, and the deformed cells do not die off.

In the early 1960s, Brenner was involved in the discovery of messenger RNA (mRNA) and demonstrated that the nucleotide sequence of mRNA determines the order of the amino acids in proteins. One close relative of *C. elegans* was named "*Caenorhabditis brenneri*" after Sydney Brenner in recognition of his discovery and establishment of the nematode in research.