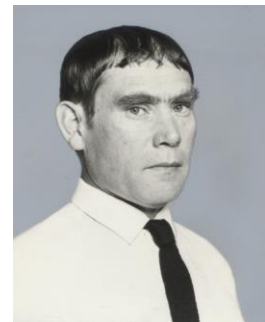




Curriculum Vitae Prof. Dr. Sydney Brenner



Name: Sydney Brenner

Born: 13 January 1927

Deceased: 5 April 2019

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

Sydney Brenner was 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 - 2019 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, USA

1954 Ph.D. in Chemistry, Oxford University, UK

1947 M.D.

Studies of Medicine, University of Witwatersrand, South Africa

Honours and Awarded Memberships

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|------------|-------------------------------------------------------------------------------------|
| 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

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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.