

Linus Pauling

- Determined protein structures were helical
- Influenced Watson and Crick

Linus Pauling was born in Portland, Oregon, on February 28, 1901. He received his bachelor's degree in chemical engineering from what is now Oregon State University. He went on to study chemistry and mathematical physics at the California Institute of Technology (Caltech), where he earned his Ph.D. Pauling taught freshman chemistry at Caltech and was reportedly an animated and engaging teacher with lots of energetic demonstrations. He wrote a college textbook for chemistry that became the standard for a large part of the century in which he lived.



Pauling's education and research interests varied. He studied both chemistry and physics and often used mathematics to reason his way through to understand something unknown. He never limited himself or his ideas to just one avenue of science. His research and influence extended to industry and medicine. He was intensely curious and stubborn.

His interest in molecular structure led him into the field of biochemistry. He came up with the idea that biological molecules had an inherent design that made them fit into other molecules to achieve their function. He suggested, in 1946, that a gene might fit this complimentary structure, and specifically, that genes might consist of two mutually complementary strands.

Pauling determined protein structures were helical in 1948. He used a paper model to convince himself his insights were correct. He was working on the structure of DNA, using models, at the same time Watson and Crick were involved in the quest for DNA. Pauling's papers greatly influenced Watson and Crick, and Pauling's son was a colleague of the pair at the same time that they were trying to work out the structure of the DNA molecule.

During World War II, Pauling had voluntarily assisted the United States in developing several technologies in support of the war effort. After the war, however, he expressed his grave concerns about nuclear weapons and protested atmospheric testing of nuclear weapons. He received the Nobel Peace prize in 1962. Unfortunately, his political views led to pressure for him to leave his position at Caltech, which he did in 1964. Pauling died at the age of 93 in August 1994.

Resources

Linus Pauling-Scientist for the Ages. Linus Pauling Institute, Oregon State University. Retrieved from: <http://lpi.oregonstate.edu/lpbio/lpbio2.html>