

# Charles Yanofsky Biography

## Charles Yanofsky

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# Biography

Charles Yanofsky has made fundamental contributions to the understanding of how the genetic code is read and translated into proteins.

Yanofsky was born in New York City in 1925. He received his education at the City College of New York and obtained a Ph.D. in 1951 from Yale University. Yanofsky's thesis research was concerned with chemistry and microbiology. During his studies at Yale he demonstrated that a suppressor **mutation** results in the reappearance of an enzyme missing in an *Escherichia coli* mutant. Also when at Yale, he participated in research that demonstrated using immunological methods of detection that certain mutated genes are capable of producing proteins but that the proteins are inactive.

Yanofsky moved to Western Reserve University Medical School in Cleveland, Ohio from 1954 to 1958. In 1958 he moved to Stanford University in Palo Alto, California, where he has remained. Currently is Morris Herzstein Professor of Biology. Among his noteworthy accomplishments at Stanford is the first demonstration, using the bacterium *Escherichia coli*, that the linear **nucleotide** sequence (the sequence of **bases**) of a **gene** is responsible for a linear sequence of amino acids in its corresponding protein. In other words, a stretch of **DNA** is read in a linear fashion and used as a template for a corresponding linear manufacture of amino acids. He also discovered the mechanisms of translational suppression and **transcription** regulation by attenuation in the regulation of activity of a target enzyme in mutants of the mold *Neurospora crassa*.

The focus of Yanofsky's research continues to be the control of **gene expression**, in particular the molecular regulatory mechanisms of bacterial transcription. He has received numerous awards and two honorary doctorates and has served as Presidents of the Genetics Society of America and the American Society of Biological Chemists. He has also been an influential mentor. Past graduate students and post doctoral fellows have become faculty members at universities such as Yale, Harvard, Columbia, UCLA and Princeton.

## Recent Updates

**February 21, 2005:** It was announced that Yanofsky will receive one of three National Medals of Science for Biological Sciences at a White House ceremony in mid-March of 2005. The National Medal of Science is the nation's highest honor for science. It recognizes individuals in a variety of fields for pioneering scientific research that has led to a better understanding of the world around us. **Source:** National Academies, [www.nationalacademies.org/headlines](http://www.nationalacademies.org/headlines), February 21, 2005.