


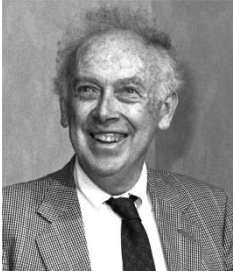
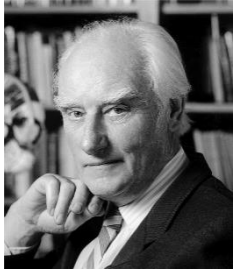




Lesson 2

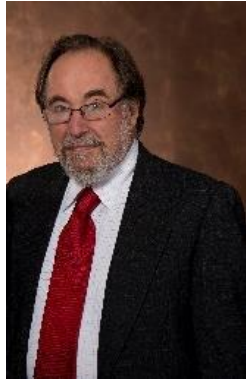
Leading Scientists & Experts

SUB-SECTION	NAME	BORN - DIED	NOBEL PRIZE	MAIN EXPERTISE	IMAGE
2.3	Erwin Chargaff	August 11, 1905 – June 20, 2002		<ul style="list-style-type: none"> • Erwin Chargaff a biochemist at Columbia University, NY - studied the nucleotide composition of DNA. • He discovered that the concentration of G equaled that of C and A equaled T. This observation paved the way for the discovery nucleotide base pairing and the structure of DNA. 	

SUB-SECTION	NAME	BORN - DIED	NOBEL PRIZE	MAIN EXPERTISE	IMAGE
2.4	Frederick Griffith	1879 - 1941		<ul style="list-style-type: none"> Frederick Griffith, a bacteriologist, focused his research on the epidemiology and pathology of bacterial pneumonia. Griffith showed that the bacterium <i>Streptococcus pneumoniae</i> could be transformed from one, harmless strain, to another, a virulent disease causing strain, with the help of an "unknown transforming substance". 	
2.4	Oswald Avery	October 21, 1877 - February 20, 1955		<ul style="list-style-type: none"> Oswald Avery was a physician and a medical researcher who spent most of his career at the Rockefeller University Hospital in New York City. Avery followed-up Frederick Griffith's experiment and discovered that the "unknown transforming substance" was DNA! 	

SUB-SECTION	NAME	BORN - DIED	NOBEL PRIZE	MAIN EXPERTISE	IMAGE
2.5	James Watson, Francis Crick and Maurice Wilkins	April 6, 1928- 8 June 1916- 28 July 2004 15 December 1916 - 5 October 2004	1962	<ul style="list-style-type: none"> James Watson and Francis Crick discovered the double helical structure of DNA. At the University of Cambridge, England their work was driven to develop a structural model of DNA that would explain how DNA could replicate and be passed on flawlessly from generation to generation. The double helix model was based on the X-ray diffraction images of DNA produced by Rosalind Franklin and Maurice Wilkins, and the discoveries of Erwin Chargaff recognizing the G=C and A=T ratios of DNA. They received the Nobel Prize in Physiology or Medicine in 1962. 	  

SUB-SECTION	NAME	BORN - DIED	NOBEL PRIZE	MAIN EXPERTISE	IMAGE
2.5	Rosalind Elsie Franklin	July 25, 1920 – April 16, 1958		<ul style="list-style-type: none"> • An English chemist and X-ray crystallographer started her career studying the structure of coal and graphite. • At Kings College in London she conducted research studying the atomic structure of DNA. She produced exceptional crystals of DNA and critical X-ray diffraction images that were crucial to the discovery of the double helical structure of DNA. • She went on to study the structure of RNA and the tobacco mosaic virus. • She died of ovarian cancer in 1958. 	

SUB-SECTION	NAME	BORN - DIED	NOBEL PRIZE	MAIN EXPERTISE	IMAGE
2.6	David Baltimore	March 7 1938 -	1975	<ul style="list-style-type: none"> ▪ David Baltimore is an American scientist who made seminal discoveries in the field of virology. ▪ The central question that motivated his research was how RNA viruses handle and replicate their genetic information. As such, of particular interest was the RNA cancer causing viruses. ▪ His research led to the discovery of Reverse Transcription, the synthesis of DNA off an RNA template and a new class of viruses, the Retroviruses. ▪ He also proposed a method for virus classification based on the route by which all viruses must ultimately generate a messenger RNA for their replication. ▪ He was awarded the Nobel Prize in Physiology or Medicine in 1975. 	

SUB-SECTION	NAME	BORN - DIED	NOBEL PRIZE	MAIN EXPERTISE	IMAGE
2.8	Marshall Warren Nirenberg	April 10, 1927 - January 15, 2010	1968	<ul style="list-style-type: none"> • An American biochemist who deciphered the Genetic Code. • Through systematic testing artificial RNA templates for their ability to direct the synthesis of proteins he discovered the triplet nucleotide nature of the Genetic Code. • He and his team at the National Institutes of Health in Bethesda, MD, identified the 64 codons and their corresponding amino acids. • He received the Nobel Prize in Physiology or Medicine in 1968. 	