

Mr. director of the
virusstructure
research group



**ASSIGN
BUSTER**

Mr. Perry9th Grade Biology7 December 2017Aaron Klug: DNAAaron Klug, also known as Sir Aaron Klug, was born in August of 1926 in Zelvas, Lithuania to Bella and Lazar Klug. He then moved to South Africa two years later, where he attended Durban High School, where he read the novel, *Microbe Hunters*, which led to his interest in microbiology. Klug soon later graduated with a Bachelor degree in science at the University of Witwatersrand and studied for his Master degree in science at the University of Cape Town. As an extremely smart student, he was awarded an 1851 Research Fellowship from the Royal Commission for the Exhibition of 1851. Klug then moved to England on his scholarship that he had earned and completed his PhD at Trinity College, in Cambridge in 1953.

Later, Klug moved to Birkbeck College in the University of London in late 1953 and started working with Rosalind Franklin in John Bernal's lab where he worked with viruses. There he made important discoveries about the structure of the tobacco mosaic virus. Klug created his own techniques of crystallographic electron microscopy, where he created a series of electron micrographs, taken of two-dimensional crystals from various angles, that can be combined to produce three-dimensional pictures of particles. In 1951, he became the director of the Virus Structure Research Group at Birkbeck College.

After working for the Virus Structure Research Group for four years, he returned to Cambridge and joined the Medical Research Council in 1962 as a staff member. He then spent the next ten years using procedure X-ray diffraction, microscopy, and fundamental modeling to create crystallographic electron microscopy in which Agin 2an arrangement of two-dimensional

pictures of crystals taken from multiple angles which are combined to produce three-dimensional images of the target. Later, he worked on exposing the structure of the DNA-protein complex, chromatin.

In 1974, along with his collaborators, Klug became the first to collect crystals of a transfer RNA and determine its structure. Aaron Klug worked in part for the work he started with Rosalind Franklin at in John Bernal's lab where he worked with viruses, he, unlike the DNA trio, honored Franklin's contribution to the project. Rosalind died at the age thirty-seven with no idea of having been edged out in a race that only James Watson and Francis Crick knew was a race, two other scientists working on DNA.

Klug's work on DNA (deoxyribonucleic acid), during the 1960s, Klug combined methods from x-ray crystallography with electron microscopy in order to study complex structures of DNA, which helped in the study of DNA. Aaron Klug's research and discoveries are still relevant to today because they have led to many others. Such as X-ray crystallography, which is a tool used for identifying the atomic and molecular structure of a crystal, in which the crystalline atoms cause a beam of incident X-rays to diffract into many specific directions. X-ray crystallography is still the chief method for characterizing the atomic structure of new materials and in discerning materials that appear very similar by other experiments. X-ray crystallography has led to a better understanding of chemical bonds and non-covalent interactions. As said before, Klug worked with Rosalind Franklin, and they worked well together because Klug acknowledged the works of Franklin.

When scientist are in competition, it increases the time the discovery is made because if people are working to finish first, they are going to be faster than just putting it off to the side for a day or two. However, it may slow down the process because the stress of having a limited amount of time can create a stalemate within the process, causing the discovery process to slow