

Rosalind Franklin: Discovery of DNA

Ever since she was a child, Rosalind had a very logical and determined mind. She hated dolls and any game that would involve pretending. She loved practical activities like Meccano and carpentry, which she learned from her brothers. Already in primary school, she knew she would be a scientist. Franklin grew up in Notting Hill in London and attended St Paul's Girl's School. She was accepted into Newnham College at the University of Cambridge in 1938. One year later the Second World War started. Although Cambridge was a relatively safe city during this time it was still a frightening experience!

During her time in Cambridge Franklin made friends with Adrienne Weil, the student of prominent scientist Marie Curie who conducted pioneering research on radioactivity. This friendship led Franklin to continue her research in Paris and improve her skills as a crystallographer - a person who studies the structure of molecules and atoms, the smallest things in the universe! Although she loved her life in Paris, in 1951 she decided to move back to London to work in a new laboratory at King's College. But it was at times a difficult experience for Rosalind. Women were not allowed in certain parts of the university. Her research partner, Maurice Wilkins, treated her like an assistant rather than the head of her own project. It was a very different environment, with more discrimination, than she experienced in France. Using sophisticated X-Ray techniques Franklin made a series of crucial discoveries. Amongst other discoveries she proved that phosphates (the 'backbone' of DNA) were on the outside of the DNA structure, rather than on the inside as most other biologists thought at the time. Without Franklin's knowledge, Wilkins showed her picture of DNA, known as Photo 51, to colleagues Watson and Crick. Crick and Watson published their work before Franklin, and had their findings published as the main article in the journal *Nature* with Franklin's work a mere accompaniment.

For their work on DNA Watson, Crick and Wilkins all received the prestigious Nobel Prize for Medicine in 1962. But Franklin had died of cancer aged 37, four years earlier, possibly due to her exposure to X-Rays. Although Rosalind Franklin did not receive the Nobel Prize it is important to recognise the importance of her work. In a letter to an undergraduate student before her death, Franklin wrote: "My main aim is to do my best to improve the lot of mankind, present and future". Through her significant research on the building blocks of life she undoubtedly achieved her life's goal.

