

## **Rosalind Franklin's pivotal research on coal, DNA and viruses.**

**Elsbeth Garman<sup>1</sup>**

**<sup>1</sup>Biochemistry, Oxford Univ**

***elspeth.garman@bioch.ox.ac.uk***

This year marks the 101st anniversary of the birth on 25th July 1920 of Rosalind Franklin, whose pivotal contribution to the discovery of the structure of DNA has been increasingly recognised since her untimely death from ovarian cancer at the age of 37 in 1958. There is now a general consensus that, if she had lived longer, she would have 'deserved' to be among the three awardees of the 1962 Nobel Prize in Physiology or Medicine. Each Nobel Prize can be bestowed on a maximum of three people and is never awarded posthumously. The Prize went to Francis Crick, James Watson, and Maurice Wilkins "for their discoveries concerning the molecular structure of nucleic acids and its significance for information transfer in living material." However, the debate still rages on as to whether, given the climate at the time, she would have been included instead of one of the three awardees. A realisation of the vital importance of Rosalind Franklin's work not only on DNA, but also on coal and virus structure, has only gradually gained traction. Very belatedly, her name is becoming much better known and the public are being disabused of the veracity of the scurrilous comments about her in the famous book, 'The Double Helix', an account written by James Watson of the DNA structure discovery. It was not until 1999 that Watson finally said that '...the Franklin photograph was the key event...' i.e. he at last admitted that Photo 51 was absolutely essential information for construction of the model. So what was Photo 51 and why was it so important? What was Rosalind Franklin's contribution to coal and virus research? I will try to give a distilled account in this contribution.