

## The DNA of the scientist women

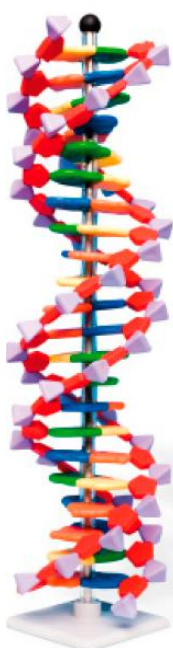
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**Topic:** Women in the chemical sciences, engineering and technologies

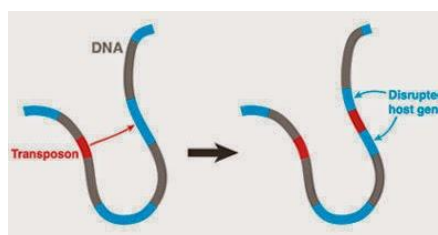
### Abstract:

DNA, the molecule of life and the objective of the research of four important researchers. This communication includes part of the research developed in relation to DNA by Rosalind Franklin, Barbara Mc Clintock, Margarita Salas and Esther Lederberg,



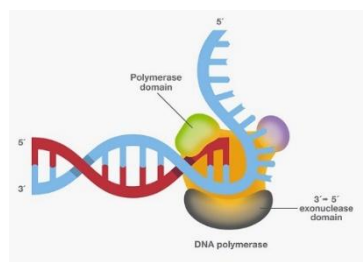
**Rosalind Franklin** used X-ray diffraction methods to study the structure of DNA. Her excellent X-ray patterns of the DNA molecules allowed her to establish that the structure was a double helix of two strands of DNA wound around each other.<sup>1</sup>

**Barbara McClintock** examined, identified and described the individual chromosomes of corn, using a microscope and a staining technique and discovered the genetic information is not stationary.<sup>2</sup>



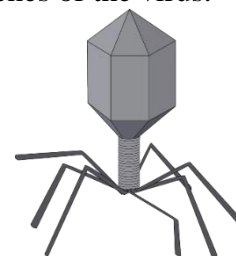
**Margarita Salas** started working on the study of bacteriophage phi 29. This is how she discovered DNA polymerase, a protein that participates in amplification of the genes of the virus.<sup>3</sup>

the  
**Esther**  
 was the first to  
 bacteriophage  
 phage  $\lambda$ , a  
 infects E. coli.



demonstrated for the first time an important phenomenon called horizontal gene transfer.<sup>4</sup>

**Miriam Zimmer**  
 isolate the  
 lambda, also called  
 DNA virus that  
 She also



### References

1. R. E. Franklin, R. G. Gosling, "Evidence for 2-chain helix in crystalline structure of sodium deoxyribonucleate", *Nature*, **1953**, 172, 156–157.
2. H. B. Creighton and B. McClintock, "A Correlation of Cytological and Genetical Crossing-Over in Zea Mays" *Proc Natl AcadSci USA*. **1931**, 17(8), 492–497.
3. M. Salas Falgueras, M. Redrejo Rodríguez, M. Krupovic, P. Forterre, "Primer-independent DNA polymerases and their use for DNA synthesis", European Application Patent (CSIC-Pasteur) P201731236.



4. E. M. Lederberg, J. Lederberg, "Genetic studies of lysogenicity in Escherichia Coli", *Genetics***1953**, 38, 51–64.