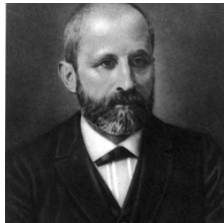


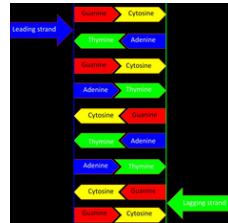
# History of DNA *Timeline*

## FRIEDRICH MIESCHER (1869)



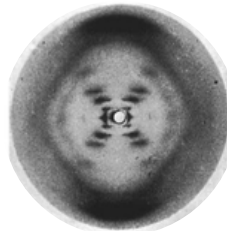
- Swiss physician and biologist
- Discovered DNA from Hoppe-Seyler (his professor in university) giving him task to research composition of lymphoid cells
  - Difficult to extract
  - Easier to find in pus and infection so he collected used bandages to experiment
  - Unintentionally discovered DNA (called nuclein at that time) in a cell's nucleus

## ERWIN CHARGAFF (1950)



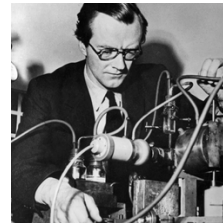
- Austro-Hungarian-born American biochemist
- Discovered amount of adenine to thymine equaled amount of cytosine to guanine
  - Didn't matter if plant or animal
  - Didn't matter where DNA was from
  - Proportion of nitrogenous bases
- Discovered percentages of adenine to thymine and cytosine to guanine vary between different species

## ROSALIND FRANKLIN (1952)



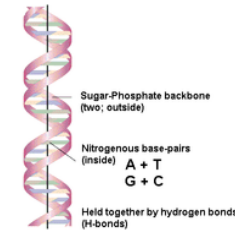
- From King's College London with Wilkins
  - They didn't get along well so they didn't work together
- She was very open with her researchers, enabling many people to access her data
- Specialised in X-ray crystallography
- Took the famous Photograph 51 (pictured above)
  - Fibre diffraction image of paracrystalline gel composed of DNA

## MAURICE WILKINS



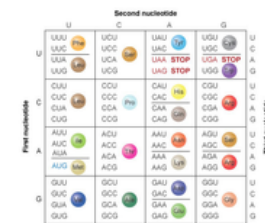
- From King's College London with Franklin
  - Did not get along so did not work together
- Showed Watson and Crick Franklin's photo 51
  - Without Franklin's notice or permission
  - The image indicated DNA strands were double helices

## JAMES WATSON (1963)



- American geneticist and biophysicist from 20th century
- 1962 nobel prize for physiology or medicine with Crick and Wilkins
- Saw in 1953 that four organic bases must be linked in pairs
  - Led to solid idea of double helix with bases on the inside
  - Sugar-phosphate ladder
  - Also explained DNA duplication

## FRANCIS CRICK (1963)



- English biophysicist
- 1962 nobel prize for physiology or medicine with Crick and Wilkins
- Had evidence on codons and placement of amino acids
  - Helped determine what codon coded what amino acid