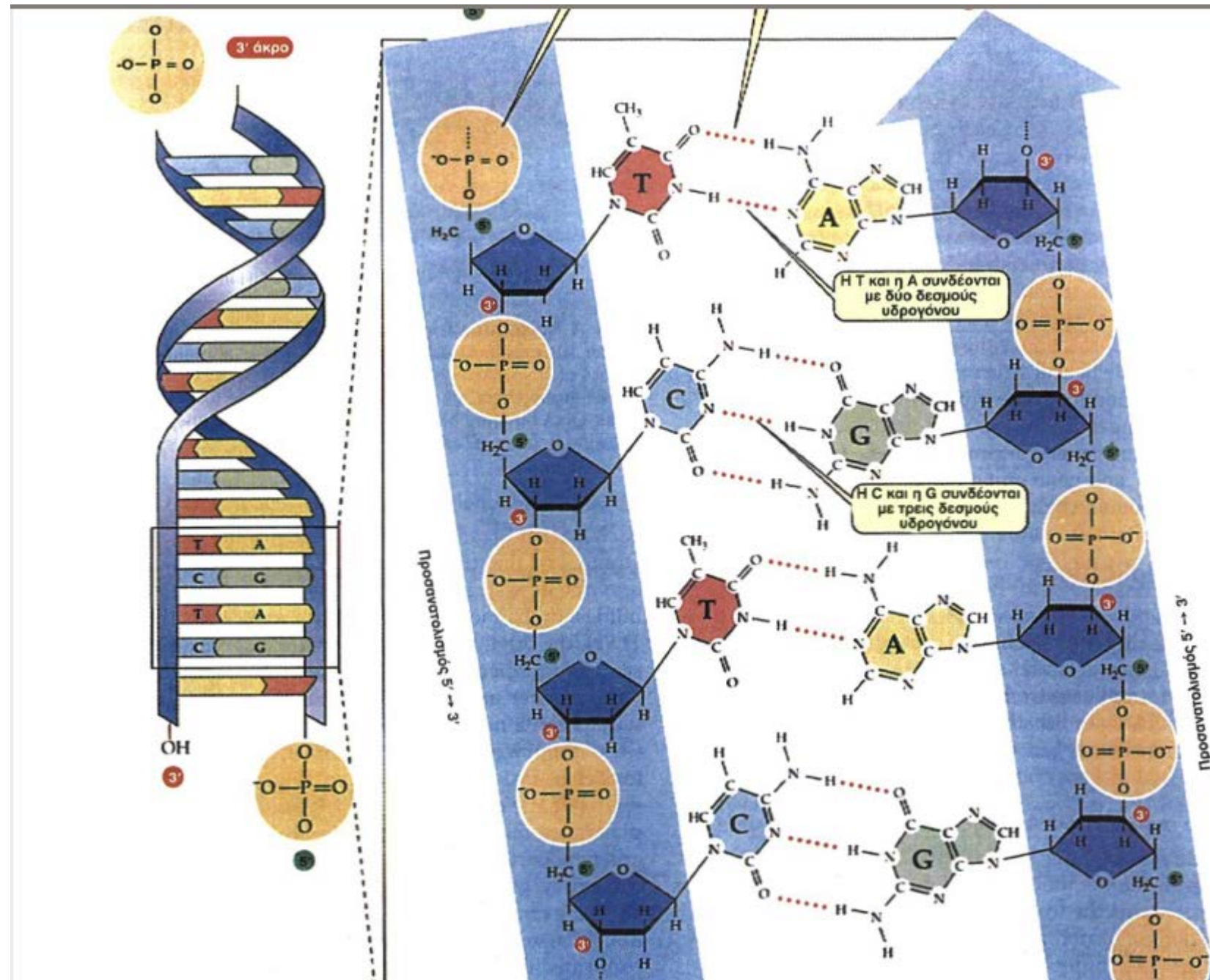


# Διπλή Έλικά DNA



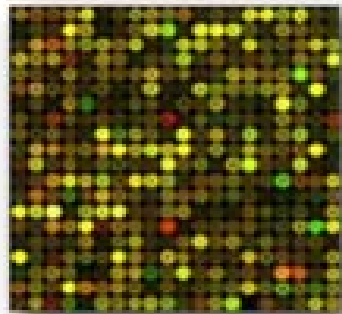
# HISTORY OF SEQUENCING

- 1869 - Discovery of DNA
- 1909 - Chemical characterisation
- 1953 - Structure of DNA solved
- **1977 - Sanger seq. invented -First genome sequenced - (5 kb)**
- 1986 - First automated sequencing machine
- 1990 - Human Genome Project started
- 1992 - First “sequencing factory” at TIGR
- 1995 - First bacterial genome – H. influenzae (1.8 Mb)
- 1998 - First animal genome – C. elegans (97 Mb)
- 2003 - Completion of HGP (3 Gb) – 13 years, \$2.7 bn
- 2005 - First “next-generation” sequencing instrument
- 2013 - >10,000 genome sequences in NCBI database

# NGS



Sanger DNA  
sequencing  
1977-1990s



DNA Microarrays  
Since mid-1990s



2nd Generation  
DNA Sequencing  
Since ~2007



3rd Generation  
& single molecule  
Sequencing  
Since ~ 2010

# NEXT GENERATION SEQUENCERS

- These recent technologies allow us to sequence DNA and RNA much more quickly and cheaply than the previously used Sanger sequencing, and as such have revolutionised the study of genomics and molecular biology.
- NGS has brought high speed not only to genome sequencing and personal medicine it has also changed the way we do genome research