

Important sub-disciplines within bioinformatics and computational biology include :

- Development and implementation of computer programs that enable efficient access to, use and management of, various types of biological and related information .
- Development of new algorithms (mathematical formulas) and statistical measures that assess relationships among members of large data sets.



- It also plays a role in the analysis of gene and protein expression and regulation.
- Bioinformatics tools aid in the comparison of genetic and genomic data and more generally in the understanding of evolutionary aspects of molecular biology. Analysis of Phylogenetic analysis is also one of the important implementation of bioinformatics in biological research.
- At a more integrative level, it helps analyze and catalogue the biological pathways and networks that are an important part of systems biology.
- In structural biology, it aids in the simulation and modeling of DNA, RNA, Proteins as well as biomolecular interactions.

