



## BIOINFORMATICĂ ȘI GENOMICĂ

### Topics

1. Molecular Biology
  - a. Microbiome and Metagenomics
  - b. Human Genomics
2. Data Analysis
  - a. Sequence Alignment
  - b. Statistical Analysis
3. Tools
  - a. Python
  - b. Analysis Workflow: Nextflow or Galaxy

### References

1. Molecular Biology of the Cell, Alberts B. et al
2. *Biological Sequence Analysis*, Durbin R et al.  
[http://www.mcb111.org/w06/durbin\\_book.pdf](http://www.mcb111.org/w06/durbin_book.pdf)
3. Morgan & Huttenhower. *Human Microbiome*  
<https://pmc.ncbi.nlm.nih.gov/articles/PMC3531975/>
4. A Primer in Research Methodology and Biostatistics, Bacarea V et al, UMFST Press, 2014  
<https://www.umfst.ro/info/A%20Primer%20in%20Research%20Methodology%20and%20Biostatistics.pdf>
5. Fast gapped-read alignment with Bowtie 2, Langmead B, Salzberg S, 2013  
<https://pmc.ncbi.nlm.nih.gov/articles/PMC3322381/>
6. Python concepte de baza <https://www.python.org/about/gettingstarted/>
7. Documentația oficială **Nextflow** <https://training.nextflow.io/>

Pagini specifice fluxurilor de analiza ex: <https://nf-co.re/mag>

