

**Conducator doctorat: C.S.I. Dr. Habil. Vlad Cojocaru**

**Tematica concursului de admitere la doctorat (loc cu bursa):**

1. Structura proteinelor; metode experimentale si teoretice de determinare a structurii proteinelor
2. Structura ADN-ului de la dublul helix pana la organizarea in genome
3. Tipuri de interactiuni intre biomolecule
4. Metode computationale de studiu al biomoleculelor

**Bibliografie:**

- Stryer, L., et al. (2019): *Biochemistry*. 9th Edition
- Sanger, W. (1984): *Principles of Nucleic Acids Structure*. Springer Verlag.
- Stigliano A.F. (2020): *Biomolecular Interfaces*. Springer Verlag
- Mistelli, T. (2020): The Self-Organizing Genome: Principles of Genome Architecture and Function. *Cell* 183(1):28-45 (<https://doi.org/10.1016/j.cell.2020.09.014>)
- Leach, A. R. (2001): *Molecular Modeling: Principles and Applications*. (2<sup>nd</sup> or 3<sup>rd</sup> edition)
- Schlick, T. (2013): *Molecular Modeling and Simulation: An Interdisciplinary Guide*

Software tutoriale recomandate:

VMD (<https://www.ks.uiuc.edu/Research/vmd/>)

Amber ([www.ambermd.org](http://www.ambermd.org))

Haddock (<https://www.bonvinlab.org/software/>)