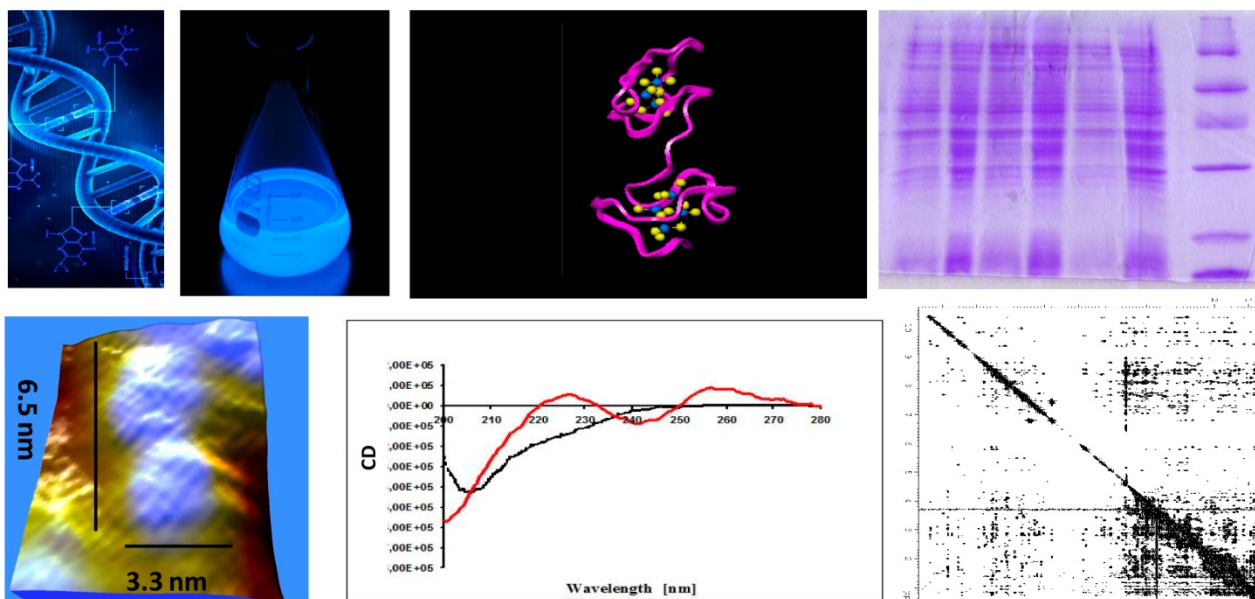


MOLECULAR PHYSIOLOGY



The research activity carried out by Molecular Physiology group of the DiSTAV is aimed at elucidating the structure/ function relationship of macromolecules.

- A line of research concerns metallothioneins, a class of small peptides (6-7 kDa) almost ubiquitous in organisms. Metallothioneins have high affinity for both essential (copper and zinc) and toxic (cadmium, mercury and nickel) metals. The research is focused: (i) on the production and characterization of metallothioneins of various aquatic organisms (trout, mussel, oyster); (ii) on the study of the physiological function of metallothioneins *in situ*, as a protection against oxidative stress. These studies, in addition to deepening the knowledge of this rather atypical class of proteins, have also potential biotechnological implications in the field of environmental protection.
- Another line of research is carried on in collaboration with the group of Applied Biology of the DIMES and the Nanoscopy & NIC @ IIT of the IIT (Italian Institute of Technology). The research is focused on investigating nuclear architecture and chromatin condensation as a function of cell differentiation and neoplastic transformation.

Keywords: Structure / function relationship; Metallothioneins, Chromatin, Nuclear Architecture.

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FUNDS: FRA-Università di Genova