**Molecular Machinery: A Tour of the Protein Data Bank**

Open the interactive Molecular Machinery poster (<http://mm.rcsb.org/>) and explore the molecules shown there. Click on molecules that interest you to interactively visualize and learn more about them.

Challenge yourself with the following questions.

* **Big and Small – Proteins Do Them All.**

Protein molecules seen here are involved in various big and small tasks within and outside the cell. Look at all the structures in this collection – note that some of these structures are big, while some are small. Each protein or nucleic acid molecule shown in these structures is colored in a different color or shade.

* + Examine the small and large protein structures shown in the “Digestive Enzymes” and “Viruses and Antibodies” groups respectively. What do the colors of proteins in these structures tell you about their composition? (Level: Introductory)

* + Do you think that the surfaces of each protein chain in these big and small protein molecules and/or complexes have similar properties? (Hint: think about the polarity, charges etc. of the surfaces of these protein chains). (Level: Advanced)
* **The Protein Factory.**

Look at the collection of molecules grouped under the heading “Protein Synthesis”. In this collection the red colored regions represent RNA.

* + What is the role of RNA in Protein Synthesis? Explain with reference to one or more structures seen here. (Level: Advanced)