

## BCH 258 – Fall 2010

### Instructions for Individual Report

**Presentations in class Oct 8-15, final form due Mon. Oct 18, by email or on a CD.**

The report uses one or more PDB files and is organized around a paper from the primary literature (you can of course add information from a related paper that complements or differs with your central one), on a topic of interest to you and that uses the 3D macromolecular structure to make a point important to the argument of the paper.

In many cases, the paper would be the one that reports the structure in the related PDB file(s), so that paper is the “JNRL” reference in the PDB header. Otherwise the paper might refer to an earlier structure and would cite the PDB code for it.

The report is in written form (.doc or .pdf), plus a kinemage graphics file of the structure that shows how you documented the structural evidence for the point(s) made in the paper, or perhaps how you disagree with some part of it. A pdf of the paper should also be included. The kinemage should have saved views for the relevant parts, and whatever lines, labels, etc. needed to let someone else see the critical things; the text should explain what to do or look for in the graphics. If you are an expert in some other suitable graphics (e.g., PyMol, Coot) you may use that (with an accompanying text file). When in doubt please consult your TA Nick, or Lorena, or Dave to be sure that your approach and graphic are appropriate.

1 ) PDB codes must be given!

2 ) This is probably quite unlike any report that you have ever written before. The text should NOT be just a summary and discussion of the paper with 2D pictures.

3 ) There must be a tight coupling between text and graphics. i.e. text should refer explicitly to views, labels, drawn, and colored parts. The graphics must clearly show what the text discusses. Any 2D figures within the text must clearly have added value to a specific view or feature shown in the kinemage. The exception would be something like blob diagrams to show context of components not included in the 3D structure coordinates.

4 ) DO NOT just write a text report with just a vaguely related set of kinemage illustrations as an extra file. Ideally, the kinemage graphics (with labels, etc.) could tell the story in itself – the text is just the glue that leads the reader through the graphics report.

#### Possible ways to find your topic:

Look thru recent issues (last few years) of a relevant major journal. Good journals to consider are Cell, Molecular Cell, Science, or Nature. You want to select a structure that represents a major breakthrough in a field and, although not many structural papers are published each issue, those that are published are generally of considerable interest to a broad audience.

Search, or ask people, for a suitable paper & structure on a molecule central to your research interests.

Search at the PDB site for structures related to a topic of interest, and look up their JRNL papers.

If you have doubts about whether you've selected an appropriate paper, PDB, and point – email or ask Lorena or Dave. There are so many outstanding examples of structures that opened a field or way of thinking. We very much would like to make sure you find them!

A departure from last year is that we will use the last few class periods for you to present your reports in class.