Structural Biology Lab, Pr. Kieffer, University of Strasbourg

Guidelines provided to students at Bachelor level

Personal work assignment in Structural Biology

As announced during the course; Structural Biology evaluation will be based on a work done by groups of THREE students.

The assignment consists in writing a PROTEOPEDIA page on a structure that you will chose, based on your personal interest.

The objectives of this project are:

- Understand how a 3D model of a biomolecule provides insights on a biological mechanism at molecular scale
- Learn how to delineate relevant information from publications and summarize them into a defined format
- Achieve a collective management to perform an assigned task in due time
- Learn a page description language used to format interactive web pages
- Question yourself about the origin of knowledge and deontology considerations about knowledge dissemination

The roadmap of tasks is the following:

1. By the 8th of November

Creation of working groups and identification of these groups in Moodle. Identify the group in Moodle: the group name should be the family name of the person who created the group, followed by the initials of the other members separated by an underscore. (exp: KIEFFER_CD_YN)

A 2 hours lab will be organized to introduce the use of PROTEOPEDIA interface by Célia Deville. Take this opportunity to start preparing your project and come with specific questions.

2. By the 11th of November

Choose ONE protein 3D structure that is involved in a particular biological mechanism OF YOUR PERSONAL INTEREST. Your choice will consist as a single PDB ID (such as 1g25...)

Check carefully the following points:

- The page should not exists on Proteopedia *Please not that all PDBID have a page, but many are filled automatically*.
- There is no related structures (homologuous proteins or complexes harboring the protein of interest)
- The subject is up-to-date and the quality of the experimental data is sound

- The structure fits into an interesting body of other experimental data, well described in few key publications

After these checks, you will deposit a proposal to work on a specific structure (identified by its PDBID) on the Moodle (First deposit). The proposal should be no longer than 1 page (1/2 page is better) of a pdf document explaining the reasons why you aim at working on the chosen structure, and briefly what kind of information you will highlight in your PROTEOPEDIA page.

The approval of your project will come as an email containing the identification of the sandbox page you will be allowed to edit.

PLEASE USE ONLY THESE sandbox PAGES.

3. by the 6th of December: Preparative Work

- Literature survey
- Editorial choices (what to show, plan of the article)

A particular effort has to be made on the page interactivity: define carefully how you will use interactive visualization tools.

- Establish a work plan, including the list of tasks, and the task assignments (who is doing what)
- Create a personal account on PROTEOPEDIA (free)
- Send a progress report containing the items described above as a one page pdf document to be deposited on the Moodle.

4. by the 17th of January 2020 Document editing

Perform the edition of the PROTEOPEDIA page related to the structure you have chosen, following the Proteopedia guidelines.

EVALUATION

Your pages will be evaluated according the following criteria:

- Biological relevance of the chosen structure (to which extend, the structural information helps us to understand a given biological mechanism)
- The quality of the text (should be well written, concise and precise)
- How you have used the possibility to illustrate specific structural features using the Proteopedia system
- How the project was prepared and conducted as a collaborative work

This work should not take you more than 20 hours (per student), dispatched as (approximate guideline):

- Preparation of the project : choosing the structure, reading papers 8H
- Getting familiar with the Proteopedia system 4H
- Writing the article 8H