

# GENETICS 875

Fall 2006

## Ahna's Proteomics & Functional Genomics Section

**Papers:** All papers will be emailed and posted on the course web site:

<http://skop.genetics.wisc.edu/Genetics875.html>. All papers are available electronically via PubMed.

**Class Structure:** The aims of this section of the course are 1) to learn to read and evaluate papers from the primary literature in the area of proteomics, 2) to understand modern experimental methods used to ask fundamental biological questions, and 3) to practice synthesizing, presenting and critiquing original research. In the course of reading, evaluating and presenting papers, we will also learn about the latest research in the selected areas of proteomics we have chosen to cover.

Each class will be conducted as a "journal club" (\*except where noted on the syllabus). A two/three person group will present 2-3 papers on a particular topic. Each group presentation should last approximately one hour and give background information needed to understand each paper, present the results figure-by-figure, and include a discussion and evaluation of the results. If there are 2 papers on a particular week, each talk should be ~25 minutes/person. If there are 3 papers, each talk should be ~20 minutes/person. Everyone is expected to read the reviews and original papers assigned so that they can participate in the discussion.

**Grading:** 40% from presentations, 20% from class participation, 40% from position papers. You do not need to turn in a position paper the week that you are presenting. In addition, each student will be excused from turning in a position paper one other week during the semester. If your papers are turned in late, I will deduct 10% off for every day that it is late. Please submit these to Ahna via email: [skop@wisc.edu](mailto:skop@wisc.edu) no later than **1 hour prior to class** time. You can hand a printed copy to me the morning of class but please send an electronic version as well.

**Note:** if there are 3 papers on a particular week, you are only required to turn in a review of 2 of the listed papers of your choice. **Computer:** If you would like to display figures from your paper and any background information that is applicable to your talk, I will have my MAC computer available so that you may load your powerpoint talks on my computer. If you want to use your own computer, make sure that everyone in your group's visual aids are loaded on one computer to make things go more smoothly in class. I will be there early to help you load.

**Meeting with Ahna:** Each student is recommended (but not required) to meet with Ahna prior to their presentation to go over the presentation and clear up any questions. You should have read all papers and have an outline of your presentation prepared before this meeting. At this time, we can schedule a brief post-presentation meeting to communicate your grade and get feedback.

### Guidelines:

**I. Presentations (40% of grade):** Presenting a paper involves three aspects. **First**, you should give some background that will help the other students understand the paper and put the paper in the context of other research in this area. You should focus on introducing background that relates to the paper. In some cases, it is helpful to review previous results by the same authors that lead to the paper you are presenting. **Second**, you should go through the paper figure by figure. Your role here is to point out what the purpose for each experiment is and to assist the class in evaluating the data. To properly evaluate the data you must understand how the experiment was done and look up any techniques you are unfamiliar with. **Third**, you should facilitate a discussion with your fellow students. Ideally, other students will interject their opinions of the experiments as you present each one. You can encourage participation by pausing to ask specific questions ("I thought that a control was needed in this experiment, does anyone agree, and if so what control is needed?"). You should also summarize the author's conclusions and encourage a discussion of these conclusions and future lines of inquiry suggested by these studies.

### **Grading of Presentations**

30% - quality of background given – does it set up the paper well and include discussion of any background data or techniques needed to understand the paper?

35% - presentation of the figures

15% - role as discussion leader

20% - summary and discussion of conclusions/future directions

**2. Class Participation (20% of grade):** Learning to participate in a meaningful discussion of scientific data is a major goal of this course. You can only participate if you have read all assigned papers and come to class prepared. During the presentation, it is OK to interrupt to ask a question or make a comment. You should not save all your questions/comments until the end. Active participation by everyone makes for a lively and interesting discussion. Your opinion is important, and you are encouraged to express it.

**3. Position Papers (40% of grade):** For each class, everyone will be expected to hand in “Position Papers” at the beginning of class (one for each article covered). Each paper should consist of two parts (see below). Preferred length is 1 page (max length is 2 pages). These are short paragraphs or outlines of what you read and grasped from these papers. Use Arial or Helvetica 11pt font and leave 1-inch margins so there is room to write comments. It’s up to you how you present this but make it brief. Position papers will be graded equally on the summary and position paragraphs.

**First**, a summary, in either paragraph or outline form, of the results and conclusions of the paper. As you read each paper, consider the following points:

- **What specific questions were the researchers attempting to answer?**
- **Why were these questions thought to be important?**
- **What is the main point or message conveyed by each paper?**
- **What line of reasoning or form of evidence is used to support this point?**

**Second**, a “position” paragraph that states what you liked or disliked about the paper, how it contributes to the field, and what next steps could be taken. You could also discuss how it relates to other papers we have read.

Sample questions to help you write your “position” paragraph:

- **How did the work contribute to extending or transforming what was already known?**
- **How well did the data support the author’s conclusions?**
- **What further lines of inquiry are suggested by these studies?**
- **What unifying concepts are addressed by this group of papers?**
- **How do these papers differ in their approaches?**

**NOTE:** Please put your name, email and date at the top right hand of the first page.