

DISEASE POSTER ASSIGNMENT

Note: Each teaching assistant had ca. 25-30 students, and they ran the poster as part of the 1hr discussion per week. I think this is a project for a large course with TA's, or a small course.

Also, we later implemented an option for the students to produce a wiki-page, using a local off-line server. It was then up to the students if they wanted to make an entry into Wikipedia or not. Alas this was all set up not by me, but by a TA, so I cannot give helpful hints...best to contact your local info tech people.

The wiki-page contributions were hard to judge for presentation, and all looked rather uniform, whereas the hand-made posters (examples at end), were more thrilling and often superb.

This poster project, in addition to the two other exams, is a main assignment in this course. This poster gives you the opportunity to be creative, learn how to use scientific resources and databases, and share your research with the others in the class. "Posters" are used in scientific meetings as a way for individuals to share their research results; we will use a modification of this idea for our class. This poster assignment is worth 20% of your grade.

POSTER PROCEDURES

A) You will be randomly assigned the species/common name of the organism/disease on which we want you to do a poster.

Note: The diseases I assigned were generally quite obscure ones, so the students would have to dig into sources and literature rather than just use standard applied texts. To get such diseases, just look at manual of diseases in fish, any crop, google any host you are working on or a colleague to see what diseases are mentioned, think of what organism you like to look at or eat and ask if they have diseases, etc. etc.

The poster should include the following information and/or answer these questions:

- 1) Classify the disease. To what genus, family, order etc. does it belong?
- 2) Which and how many hosts are affected?
- 3) What is the life cycle of the disease and its transmission mode?
- 4) What is the effect of the pathogen on the organism's fitness in terms of morbidity, mortality, and reproduction?
- 5) How common is the disease on the host and are there large epidemics?
- 6) Can the pathogen be cultured? How is it studied?

- 7) What is the earliest reference to the disease and where was it first reported?
- 8) Does the pathogen get any diseases itself?
- 9) How important is the disease economically/socially – how much money is spent trying to cure/eradicate it?
- 10) How well is it studied in it terms of number of citations in biological journals per year and are there any gene sequences (nucleotides) known in GenBank? (www.ncbi.nlm.nih.gov)
- 11) What really makes this disease interesting? Point out *cool* facts.
- 12) What isn't known about this disease that would be nice to know?

The poster should not be restricted to the above information. *Please feel free to include anything else that YOU find interesting.*

B) Research your disease following the procedures outlined in the library talk, and **follow the time line and checklists** on the last page of this handout.

C) Organize your information and design your poster.

1) The final poster will consist of **two large pieces of colored poster board (or the equivalent)**; these can be bought cheaply.

You will have to summarize your research efforts: to get an idea of how much room you will have for pictures and text, note that you can place approximately 8 sheets of regular size 8x11 paper on two poster boards, so that this the maximum space you will have.

2) IMPORTANT: Text must be in large letters (18 point font or greater).

Otherwise it is too difficult to read from a reasonable distance.

3) **Your disease and your name should be placed in big letters near the top** of the poster.

4) Have an “abstract” in the upper left of the poster; this should be a brief summary.

5) The remaining space will be devoted to text and figures and pictures to illustrate your work. Picture sources don't need to be cited. However, graph or table legends should cite the reference they were taken from (see below for more on citation).

The best posters have a good organizational flow; all subsections, figures etc. clearly fit into the overall goal of the poster. In the best posters it is obvious from the text when to look at a particular figure and the figure legend makes it obvious how to interpret the information. The easiest way to judge this is to have a friend read your poster and see if he/she can understand and follow the topic.

Make the poster interesting and readable; **it should not be a term paper attached to a board.** Have section headings that help the reader divide up the material. It is also often effective to list the main points with numbered items as opposed to typing a long paragraph.

5) Posters should cite 5-8 primary sources of papers coming from original scientific articles and books, not from the web. **Put the full references in the separate section of the text** of the poster that you will send to your TA (see below). Other references (newspapers, web sites, Time, Newsweek, etc.) should not be counted as primary sources of information. Direct quotes from sources should generally be avoided; too many direct quotes make it look like one is downloading information rather than integrating the ideas from several sources.

6) As well as handing in the poster (see below) we want you to send a **copy of all of the text on your poster as a paper plus, at the end, a list of the references you cite on a separate sheet of paper.**

Note: this is all rather optional. We were keen that the undergrads learn about original literature.

References should be cited in the text of the poster in the style of scientific papers (i.e. write (Smith and Jones 1995) at the end of the sentence that cites information found in Smith and Jones' article). **The "Literature Cited" section should only contain articles that are cited in the text and should be in the format used in journals.**

Author AB, Author CD. Year. Title of article (sentence case). *Journal Name*. Volume: pages1-pages2.

e.g.

Lockhart AB, Thrall PH, Antonovics J. 1996. The distribution and characteristics of sexually transmitted diseases in animals: ecological and evolutionary implications. *Biological Reviews of the Cambridge Philosophical Society* 71:415-471.

Or if citing an article in a book:

Antonovics J. 1999. Pathogens and plant population dynamics: the effects of resistance genes on numbers and distribution. In: Traynor PM, Westwood HH. (eds) *Ecological Effects of Pest Resistance Genes in Managed Ecosystems*. pp. 49-55. Information Systems for Biotechnology, Blacksburg, VA.

7) Putting together a poster takes a lot longer than you would expect, so plan ahead accordingly.

Expectations:

There are 3 general things that we will be looking for in your posters:

1) That you have **adequately researched the disease and addressed most of the questions outlined on the first page** and have you integrated material from several sources in the poster?

2) **That you have effectively communicated the material with the poster.** Communicate and highlight the main points with clean text and attractive illustrations.

3) We will also reward **creativity**, as long as it is not a substitute for 1) and 2).

You will be graded (like in figure skating) both for technical performance and artistic presentation, the latter being both creativity and clarity and a wow factor.

GOOD LUCK AND HAVE FUN....

Poster Presentations:

We posted the posters in the Biology department hallway.

Each section will have two days of “poster sessions” during discussion in the last weeks of the semester. On these days be sure to come to class on time. We will have a “poster tour” where each student will stand by their poster and give a short (5 minute) talk with a few minutes for questions.

In this talk, we expect you to state three things: 1) The disease you were researching, its primary host species and main characteristics, 2) the most interesting discovery or cool fact from your library research, 3) What you think is the main unanswered question about this disease.

Note: I never personally liked this part, but the students were very pleased to have the opportunity to show off their poster (especially when they had put in a lot of effort) including to visiting parents and friends.

Poster Time Line

Note: We soon realized that students needed to be kept “at it”, and this was not a project for one late night before the due date. Therefore we set up mileposts. I think this is essential.

Below is an example.

Week 1 (post midsemester break) - 18/19 March

Bring to your discussion section:

1. A filled out “Research Checklist”.
2. A classification of the pathogen or parasite (Kingdom, Phylum, Class, Order, Family)
3. **Three** references to your disease/pathogen in the primary literature (if they are available). Cited in order of: authors & initials, date, title of article, journal, volume, page numbers.

Note: if the referenced articles are not in the library order them ASAP on inter-library loan

Week 2 - 25/26 March

Bring to your discussion section:

1. A text outline with information on as many of the subjects on pp. 1 and 2 of the handout. You may not have all the information by now, but you should have most of it.

2. Specifically, including:

- a) The reference of the first time the disease/causative agent was identified.
- b) **Three more** references to your disease found by
 - (i) looking for references cited by others, or by
 - (ii) looking at science citation index on Web of Science to see who subsequently cited the papers you have found

Week 3 – 1/2 April

Design your poster.

Poster trouble shooting: bring any questions or difficulties to discussion

Week 4 - 8/9 April

Complete your poster.

*****Friday, April 12th Poster and text due 5.00 pm at latest**

1. Bring poster to Gilmer 052 and put it up in the hallway. You will be provided tape etc. to do this.

2. E-mail the text of your poster, plus references, to your TA. *Note: the poster itself should have citations by author and year, but the reference list does not go on the poster but only in the text version.*

You will present your poster in the next two discussions after this.

POSTER PRIZES

On the last day of class we gave out fun prizes (mostly from the dollar store) for the best, most horrific, cutest, etc. posters, as judged by the TA's.

Example posters:

