Cooper
Oct. 28, 2011

Physics 596 – Fall 2011

Assignment #2: Web-Based Research Highlight or Scientific Poster

Your team should identify ONE of the two following assignments for your final Physics 596 assignment:

Option 1. Research Highlight – Choose a research topic on which to write a research highlight for a non-expert audience, e.g., similar to what you might find on the web page of a standard Physics Department web site or for an article in a popular science journal. This research topic can be based upon a specific scientific paper or a closely related set of papers. Your scientific paper *may* be based on the same paper you used for your Journal Club assignment, or it can be based upon a completely different paper. For examples, see:

http://www.physics.uiuc.edu/research/highlights.htm (UIUC Physics Dept.)
http://focus.aps.org/focus_archive (links here point to appropriate articles)
http://www.engr.uiuc.edu/research/news/ (UIUC new archive)
http://www.nytimes.com/pages/science/index.html (New York Times Science)

Your highlight should contain (at least briefly) all components of a good scientific presentation (and *most* components of a good scientific paper), including: a title; an introduction/motivation/background section; a methods section; a results/discussion section; and a summary/conclusions section. Your highlight should also feature several images that may include equipment used, author pictures, results, schematic diagrams illustrating relevant physical processes, etc. Don't forget to include figure captions and credit for any borrowed images with any figures. You should include useful hyperlinks so readers can learn more about the various topics raised in your highlight.

Your group should identify a "leader" for this project (someone who didn't lead for Assignment #1) who will organize the group, help decide assignments of different members of the group, and help put the different parts of the project together.

There are several goals of this assignment: One is to get practice explaining the science associated with your research topic at a level appropriate for non-expert readers, which is something you'll need to do often when writing proposals and giving general talks (e.g., colloquia). A second goal is to gain practice using the special attributes of the web (e.g., links to other sites, special graphics, movies, etc.) to convey scientific material…this is becoming increasingly common and important. Your web-based highlights will be posted on the Phys. 596 homepage when they are complete. A final goal is to practice developing the different components of a scientific presentation/paper.

You will be evaluated on the esthetics, content, and completeness of your work. The length will be typically 2-3 pages in Word at 12 point font. I can provide suggestions if you can't come up with a topic.

Option 2. Scientific Poster – Choose a research topic that will be the subject of a scientific poster (height=28", width=56") using PowerPoint (Creating Scientific Posters will be discussed in class on Nov. 4). This research topic can be based upon a specific scientific paper or a closely related set of papers. Your scientific paper *may* be based on the same paper you used for your Journal Club assignment, or it can be based upon a completely different paper. The poster should include sections that follow the outline of a good research paper: It should include (i) an Introduction/Motivation for your topic (including useful illustrations), (ii) a brief description of the techniques and procedures used in your research topic (including interesting and informative pictures), (iii) any relevant results associated with the research (including great data and/or simulations/calculations), (iv) a summary section, which would include possible future directions for the research, and (v) an acknowledgment section. Following are a few pointers to keep in mind for this assignment: (i) as in the case of a scientific oral presentation, the text on the poster should not be too dense; (ii) the font size should be no less than about 24 point; and (iii) you should make good use of eye-catching, but informative, figures.

Your group should identify a "leader" for this project (someone who didn't lead for Assignment #1) who will organize the group, help decide assignments of different members of the group, and help put the different parts of the project together.

Poster/Highlight Presentations and Awards: You will present your scientific posters or research highlights to the rest of the class during the final day of class, December 2, 2011. The presentations will be judged by a panel of experts (i.e., Celia Elliott and a faculty member to be named later), and two awards – which will include certificates for winning team members and a modest amount prize money (enough for a nice dinner for 4!) for each winning team -- will be given for the best posters and/or research highlights.

Deadlines: **Sunday, Nov. 27: Draft of your poster or highlight to Prof. Cooper**

Friday, Dec. 2: Final poster or highlight will be presented in class