GEMS 160 Poster Presentation Guidelines

What is a Poster Session*

For many years the only means of presentation at scientific meetings was the "platform presentation", either an hour talk by one of the big names in the field or a 15-minute talk by practically anyone. As meetings grew, the burden of platform presentations also grew. Imagine sitting in little darkened rooms for several days listening to presentation after presentation. The brain rapidly became saturated, a kind of hypnotic trance descended on the audience, and soon it was very difficult to pay attention to anything. Not even caffeine helped.

The solution to this problem was the poster session, a kind of science fair for grown-ups. Space is provided for participants to tack up data and explanatory comments. Viewers pass among these "posters," noting which ones they find interesting and what questions they have. Then at an appointed time the people presenting the poster stand by their presentation and are questioned by interested people. More intense interactions occur than in platform presentations, and in general the people who need to get together to profit from one another do so.

A presentation at a poster session requires a variety of communication skills. You have to write well so that the captions and other explanatory material are clear. People will be coming to look at the poster when you are not there, so it has to stand on its own without the help of your gifts of spoken communication. Just as the captions need to be clear, the data themselves have to be presented in a way that is self-explanatory. Quite often graphs are better than tables of data, and the graphs should not be too cluttered or too small. Remember that while a picture is worth a 1000 words, a useless picture is worth 1000 useless words.

There will be a period when you will be standing next to your poster, explaining it to people and answering questions. Usually people who come to a poster ask one of two things. Some will just say, "Explain this to me." So then you have to give a little speech, pointing at the data as you go along. Others will already have studied your poster and will now have questions. "Why did you do it that way?", "Isn't there a better interpretation of those data?", "Haven't you heard of the work of Crouton and Poofenmeister?" You have to be able to think on your feet and answer clearly and concisely.

*provided by Dr. D.L. Cronkite

Guidelines for Effective Poster Presentations

Posters should be readable by viewers four or five feet away. The message should be clear and understandable without oral explanation. The following guidelines have been prepared to help improve the effectiveness of poster communication.

The major elements of a good poster typically include:

- The title, which reflects the theme or major concept of the poster.
- The author(s) and affiliation (company, school, city, state, country as appropriate).
• The abstract, a short summary of the poster that is submitted to the organization running the meeting. Usually the abstract also is published in a book available to meeting participants.
• The introduction, which includes a description of what you wanted to do and why. It often contains background information from your previous work or other literature. The introduction may include a formal hypothesis.
• The materials and methods section, which shows how and what you did. This section often contains controls and experimental design as well as the techniques used.\(^1\)
• The data presentation, which can include various formats, graphs, pictures, diagrams, structures, tables, or models. This section includes the information that you collected during your research.\(^2\)
• The results and conclusions, which involves evaluation of the data, which lead to conclusions about your data, experimental design, or theme presented. If you proposed a hypothesis, did the data support the hypothesis? If not, why not? Your conclusion should also answer the "so what?" question so that your audience leaves with a complete story about what you did, why you did it, and what the outcome of the activity was.\(^3\)
• References (bibliography), which may be very helpful, especially if you are referring to work by others. You must include references to any Web based materials.
• Acknowledgments, especially for funding agencies.

\(^1\)Since you did not have a “research” question that was to be answered, the introduction would include background appropriate for your topic. You may have a question that was answered through your reading and research of the topic.
\(^2\)In this case the “research” is not based on experiments you actually did, but information and data that you collected from various resources
\(^3\) Even though you did not do experimental work, you should have a conclusion based on the information you have collected.

Steps to create a good poster:

1. **Initial Draft.** Plan your poster early. Decide upon the tables and figures that you will include. Suggest headlines and text topics for describing your work and supporting your tables and figures. It is better to focus your attention on a few key points rather than include every experiment you conducted in your project. Discuss your draft with your research mentor.

2. **Rough Layout.** Layout your best initial draft, keeping the dimensions in proportion to the final poster. You may choose to use multiple sheets of paper or a blackboard to visualize the overall layout. Print the title and headlines. Indicate text by horizontal lines. Draw rough graphs and tables. This will give you a good idea of proportions and balance. Ask associates for comments. This is still an experimental stage.

3. **Finalize Text, Figures, and Tables.** Type your text with a word processor. Avoid abbreviations, acronyms and jargon. Prepare tables with a word processor or spreadsheet program. Double-check all numbers. Draw your figures and/or chemical structures. Ask associates for comments on attractiveness and clarity.
4. **Final Layout.** Enlarge your text, tables, and figures to their full size. Use a consistent type style throughout. San serif fonts (Helvetica on a Mac or Arial on a PC) tend to be the easiest to read on a poster. Use large type, at least 16 point size (18 is even better), for text and an even larger type size for titles. Text and figures can be photo enlarged for posters using a photocopy machine. Print out all pages of the poster in their (hopefully) final form. Have your research mentor approve comment on your layout.

5. **Clarity.** Is the message clear? The poster should be understandable without oral explanation. Do not omit the text, but keep it brief. Do the important points stand out? Size attracts attention. Is the text and figures legible from a distance? The average poster reader will be standing about 6 feet from your poster!

6. **Balance.** Is there a balance between words and illustrations? If you have only a few illustrations, make them large. Is there spatial balance? The figures and tables should cover slightly more than 50% of the poster area. Is the pathway through the poster clear? The movement (pathway) of the eye over the poster should be natural - down the columns or along the rows. Arrows, pointing hands, numbers and letters can help clarify the sequence.

7. **Simplicity.** The temptation to overload the poster should be resisted. More material may mean less communication.

**How to construct your poster:**

Once you have decided on the elements that you want in your poster, then you need to decide how to construct it. At most meetings, the boards for mounting a poster presentation measure four by six feet; they are typically white or off-white composite-type materials. Push-pins are ideal for holding your poster materials on this type of poster stand. For our poster session you will have a stand-up display board that is 3 ft. high by 4ft wide. You will have time to put your items on the board when you arrive at the session. You should provide your own background on the poster board, since the board will be used again for future classes. Spray adhesive works well for mounting the information on the background if you have access to it (you don’t need to buy a can just for this, since it is expensive). A supply of push pins will be available in the lab for you to use in attaching you information to the poster board. Look at the posters currently on display on the 2nd and 3rd floors of the Science Center to see how they are constructed and displayed. Use the ideas that seem to work best for your presentation and style.

A common method of poster construction is to prepare individual components in a modular approach. For example, a banner listing the title, authors, and affiliations forms one module. The remaining components of the poster are presented as individual modules (or titles). The presentation can be made more attractive and readable if the components such as the abstract, data, and discussion sections, are printed on white paper and then mounted on colored paper that provides a sharp contrast to the background of the wall or poster board. Usually, a dark color works best for the colored paper. The individual components may also be laminated for protection during transportation and display (however this in not a requirement for this presentation, rather FYI). Laminating can be done in the media center on the second floor of Van
Wylen Library, but you need to give them at least a day to do the job!

Another common method of making a poster is to construct it on one large sheet of background paper cut to the appropriate dimensions. This type of poster is then rolled and transported in a tube or other suitable container. At the meeting site the presentation is unrolled and attached to the poster board or wall.

**Timeline for poster session**

**Thursday, March 30 (12 pts – due via discussion board by 5:00 pm, points lost if late)**
Submit two topics in order of preference that you would like to use for your presentation. Try to be specific about your idea. “Global Warming” would be too vague, while a topic such as “Deep Sea Sequestration of CO$_2$” is a specific aspect of the global warming discussion that could be presented in sufficient detail using a poster presentation. Your instructor will go through the submitted topics and select those that avoid excessive duplication. In case of duplicate topics, the earlier posting will be assigned the topic of first preference. A confirmation of topics will be posted on the class discussion board a few days after the topics have been submitted.

**Thursday, April 6 (16 points – due via discussion board by 5:00 pm, points lost if late)**
An abstract of your poster is to be turned in. The abstract should be no more than 200 words long and should summarize the important points to be made in your poster. Include the title of your poster (not part of the 200 words). Your lab time for today is to be used for doing research on your topic and in completing the abstract.

**Friday, April 14 (12 points – due via discussion board by 5:00 pm, points lost if late)**
Post 4 questions on the discussion board that you want other students to ask you about your poster. These questions should require more than just a simple answer.

**Thursday, April 20**
Poster presentation during the lab session. Each student will be given a list of questions (provided by the authors) to be answered by visiting the posters.

- (75 points) Poster to be evaluated on creativity, organization (were the guidelines for the poster followed), general information presented to the viewer, data and technical comment that support the information, effectiveness of the presenter in describing the content and answering questions.
- (40 points) Written responses to selected questions for each of 10 different posters.