Scientific Poster Presentations

Motivation:

The poster presentation is a major method of scientific communication. An effective poster presentation achieves two goals: it conveys your major point(s) to many people, and it generates conversation about your research. Posters have a hybrid visual/textual logic and structure, and viewers interact differently with them than with a solely textual or solely oral presentation.

Poster sessions generally take place in a large room, with many other presentations occurring simultaneously. Attendees wander the room, looking for an interesting topic, or sometimes pausing for something that is merely eye-catching. To increase your chances of attracting both audiences, create a poster that is both strong in content and pleasing in appearance.

Remember that your poster does not stand alone – you are an integral part of the poster experience! Do not plan merely to stand aside quietly while viewers read your poster. Offer to explain the poster, and be ready to interact with viewers as questions arise. In doing so, everyone has a pleasant and informative experience.

General Guidelines:

Many more useful tips can be found at http://www.ncsu.edu/project/posters/NewSite/. Most importantly, talk to me as you prepare! Many questions will come to mind as you put together your poster, and it will be more useful to have them explained to you as you go.

• Before making the poster, generate an outline of the minimum information necessary to understand the experimental methods and your major findings.

• A poster concisely conveys information using visual logic instead of textual logic.
  o Build visual “sentences” and “paragraphs” using pictures, graphs, and tables.
  o When you must use words, use bullets, lists, and phrases in place of complete sentences. (The Introduction is the exception to this general principle.)

• Visually sell your poster to get attention of those walking through the exhibit hall.
  o The basic font size must be large enough to be read easily at ~3-4 feet. (minimum 20 pt)
  o Use color often. If you are having trouble accessing a color printer, see me.

• Think about how you will interact with a viewer.
  o Viewers will include me, others faculty and other passing students. This is your opportunity to show them your skill and ability.
  o Your physical appearance and bearing are as much a part of the presentation as the poster itself. Act professionally and confidently!
  o Use your poster as an anchor point to lead a viewer through your thought process, important results, and conclusions. Be prepared to deliver a two-minute oral summary to any viewer at any level (Gen. Chem. up to faculty).
  o Can you anticipate any common questions that your viewers may have? Can you answer them? Sitting with another student, perhaps even a younger one in the major, is helpful.
Specific Sections

Use the space necessary to convey your information – these need not take only one panel.

• Introduction
  o Describes the problem or what you are trying to investigate
  o Explains your motivations for doing this new and exciting type of research (NOT “Dr. Davis said it would be good for us…”)
  o Outlines your objectives and major results

• Methods
  o Conveys your experimental design and data collection methods
  o Shows the system under study and explains why that system is a good choice to demonstrate the phenomenon under study
  o Includes a schematic of the experimental setup and an explanation of why that is a good choice to probe the phenomenon under study
  o Do not just simply list the stepwise procedure
  o Includes any problems or issues encountered.

• Results and Discussion
  o Organized by major findings. For example, if you demonstrated that the threshold voltage for an LED depends on its emission wavelength, make this topic a major panel (i.e. “Threshold voltage is related to emission wavelength”) and place the necessary tables/calculations/graphs in this section.
  o Provides well-organized tables of experimental data.
  o Shows pertinent sample calculations
  o Shows thoughtful reflection on your data.
    ▪ Do the data make sense?
    ▪ Physical meaning of the results (These make terrific section titles)
    ▪ (if applicable) Problems encountered and propose resolutions. Suggestion to buy better or upgraded equipment is not an answer. Neither is stating that next time you will “be more careful.”

• Conclusions and Future Directions
  o Summarizes the physical meaning of your results
  o Proposes new directions using your techniques or experimental systems. In other words, might a better or more interesting experiment be done using this technique or to study this system?

• References
  o If you explored the works of others (especially if you borrowed their schematics!) in making your poster, now is the time to give proper credit.
## Chem 341L Poster Grading

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
<th>Score</th>
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</thead>
<tbody>
<tr>
<td><strong>Introduction/Background</strong></td>
<td>Adequate background to help reader understand the topic/problem to be investigated? Research question and hypothesis stated clearly? Significance stated (Big picture)?</td>
<td>____________/10</td>
</tr>
<tr>
<td><strong>Methods</strong></td>
<td>Experimental methods concisely shown? Fundamentals of instrumental technique given? Method for processing/analyzing data described?</td>
<td>____________/5</td>
</tr>
<tr>
<td><strong>Results and Discussion</strong></td>
<td>Mathematical methods described or shown? Data clearly presented in tables and/or graphs? Data interpreted &amp; summarized for reader? Physical meaning of the data clearly explained? Conclusions reasonable based on the data?</td>
<td>____________/10</td>
</tr>
<tr>
<td><strong>Conclusions and Future Directions</strong></td>
<td>Summary of results and their significance? Shortcomings/drawbacks given? Further research &amp; improvements suggested?</td>
<td>____________/5</td>
</tr>
<tr>
<td><strong>Presentation</strong></td>
<td><strong>A. Format and organization</strong> Poster organized, easy to follow? Fonts large enough? Easy to read? Text short? Good writing/spelling? Easy to follow; not a data overload?</td>
<td>____________/15</td>
</tr>
<tr>
<td><strong>B. Overall quality</strong></td>
<td>Is it interesting? Technical level appropriate for advanced chemistry undergraduates? Depth of knowledge exhibited?</td>
<td>____________/5</td>
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Additional Comments: ____________________________________________________________
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