George Cree’s Anthology of Tips for Posters

This document was put together by George Cree in the spring of 2003 when he was at UVic as a postdoc with Daniel Bub.

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Survival Skills for Graduate Students
Prof. Tutis Vilis (University of Western Ontario)
http://www.med.uwo.ca/physiology/courses/survivalwebv3/frame.htm
- click on the poster link at the top, and then follow the links that appear on the left hand side
- includes some useful examples of good vs. bad posters

The Poster Site
http://edu.medsci.uu.se/occmed/poster/default.htm

The Basics of Poster Design
http://www.waspacegrant.org/posterdesign.html

Posters are a method of communication just like books, movies or Web sites. The better your poster design, the more likely your audience will understand your project.

The following sections may help you create a more effective poster:
Getting started | Mastering the basics | Creating design unity | Additional resources | Poster checklist

Getting started

Clear design starts with clear thinking. Before you begin shuffling charts, graphs and photos, ask yourself this question:
If the viewer only carries away one idea, what do I want it to be?
Now write down your answer. This is the theme of your poster, the focal point. Everything you include on your poster should support that theme.
Posters tell stories. Your poster tells viewers what you did, why you did it and what you found out from doing it. The poster should include a statement of the problem investigated, a description of the method used (if relevant), results or findings, and a summary.
For example, the poster that won third place last year detailed the author’s cholesterol research in three columns. The first explained what enzyme was being studied and why. The second explained the method used and showed graphics of the student’s work. The third was divided into sections on results and conclusions.
If it helps, try writing an outline as if you were writing a term paper. More visual than literary? Try

Sabrina Andrews’ award-winning poster employed a limited color palette, carefully selected graphics and simple outline in easy-to-read typeface.
clustering your ideas in balloons, then link them in order. The goal is to create a road map that will take the viewer from start to finish.

**Mastering the basics**

Keep your poster simple and visually uncluttered. Someone standing three feet away should quickly understand what each component is and why it is there. On a poster, columns are easier for the eye to follow than information laid out left to right.

Let’s start with the basic basics:

- Each poster should have a title. Any text used on the poster should be created on a computer to guarantee the type is clear, clean and easily read.
- Background materials and graphics should have straight edges and even margins. Use a ruler and razor knife to cut out charts, graphics, photos and text.
- Connect the text to the graphic elements. If a paragraph refers to a diagram off to the side somewhere, say so. For example, "Wind blows over ocean, generates waves (Fig. 1)."
- Viewers can’t read small type from a distance. Use 18-point type or larger.
- Variety is important. Think about your information. Can you explain something better in a chart? Would bullets make your point more effectively than a solid paragraph? What about photographs? Edit your copy ruthlessly.

As you jot down the elements you want to include on your poster, group together key or related information. Think about ways to convey those ideas as a unit.

**Creating design unity**

OK, your research is done. You know what you want to say and you understand the basics of how to arrange your information. Now it’s time to start building your poster. Graphic designer Roger C. Parker says design creates unity through the use of white space, type and color. Let’s start with the first element. Despite its name, white space is not necessarily white. Instead, white space is the area of your poster not covered with text or graphics.
White space provides a frame for your material and makes the other components stand out. Too much white space and your viewer’s eye will wander. Too little and the result is confusion.

When it comes to design, less is more. Limit yourself to three text fonts. You might want to use one font for the title, another for the text and a third for any captions. Another solution would be to use a single font, but vary the way you apply it. For example, choose a text in 72-point bold for the title, 24-point normal for the text and 18-point italics for any captions.

All capital letters can be used for titles, but otherwise stick to mixed cases just as you would in a normal sentence. In general, use Serif fonts like Times Roman for the text and Sans Serif fonts such as Helvetica for titles and to label the figures.

Color should be used for emphasis, but be aware of the connotations that certain colors and color combinations carry. In most cases, the background of your poster should be a solid color rather than a pattern.

One effective technique for grouping information is by framing it with different background colors. For example, Amy Enloe used a simple white background, then color coded each section of data. In her first poster, the definition of scatterometry was framed in green. The section on project data was yellow. As a result, viewers could easily match illustrations and text.

Sketch out your ideas. Move your materials around and look at them from a distance before gluing things in place.

Posters can also be created on computer. The best known design programs include Macromedia Freehand and Microsoft PowerPoint, as well as the Adobe programs such as Illustrator, PageMaker and PhotoShop. Adobe Frame Maker is popular at Atmospheric Sciences because of its ability to handle equations. Each company maintains a Web site to help you get the most out of their products.

The one drawback to computer work is cost. Kinko’s, for instance, charges a $15 setup fee, plus a printing fee of $8 per square foot for regular paper and $12 a square foot for glossy. The expense often discourages students from printing a rough draft. If you can’t afford printing the whole poster twice, try to at least print out a scale model.

Good design can’t salvage poor research, but it can keep your good work from being overlooked.

**Additional Resources**

**Survival Skills for Graduate Students**

Need help getting from poster design to presentation? This site by Dr. Tutis Vilis at the Department of Physiology at the University of Western Ontario includes answers to just about every researcher’s questions. His Steps to Preparing a Poster offers a good illustration of clear poster design and step-by-step instructions to create your own masterpiece.

**How To Make a Great Poster**

This article from the American Society of Plant Physiologists walks you through poster making from idea to printing. Written by Dina F. Mandoli in the UW’s Department of Botany, it includes ideas on fonts and colors as well as a list of materials.

**Creating Posters Using Adobe PageMaker and MS PowerPoint**

This site, designed for Health Services 590A: Knowledge Management in Health Services, offers link after link of ideas and resources. Check out the free guide from Teaching Support Services at the University of Guelph, Guelph in Ontario, Canada.

**How to Make a Poster Using PowerPoint**

This site has all the basics for both Mac and PC users including customized printing instructions for the Locke Computer Center in UW’s Health Sciences Building.
Poster Mounting Made Easy

Space Grant Scholar and poster session veteran Carl Frederickson generously offered to let us share his secrets for creating a free-standing poster.

A Quick Poster Checklist
- This portion may be viewed on a separate page for easy printing.

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Posters for the Oct. 3, 2002 Space Grant Awards Reception & Poster Session must be **free-standing** and should be approximately **32x40 inches**. Due to space constraints, larger posters may be difficult to display properly.

• What is the theme of my poster? Do all the items included in my poster support that theme?

• Does my poster have a title? Does the title accurately reflect my work? Is the title easy to read from five feet away?

• Does my poster have a conclusion? Does it flow logically and naturally from my introduction? Are there any missing steps?

• Are all my lines straight and my margins even? Are the photographs in focus and tightly cropped? Is anything smudged or dirty? Neatness counts.

• Are my sentences properly punctuated and all the words spelled correctly? When in doubt, look it up. That advice applies to names, too.

• Do I have a good balance of text and graphics? Are they evenly distributed around the poster or are they all clustered on one side?

• Is my arrangement simple and uncrowded? Look at each element. Does any item duplicate other material? If so, take it out. Simplify, simplify, simplify.

• Is my information arranged in columns? If not, are my sections numbered so that the viewers won't be confused? Stand back. Does my eye flow naturally from one point to the next? If not, why?

• Can I read the introduction and the other paragraphs from at least three feet away? 24-point type font is ideal for this purpose.

• Am I prepared for accidents? Bring scotch tape or a glue stick to the display area in case things start falling off. Other handy tools are correction fluid and a marking pen for making last-minute corrections.

• What can I do differently next time? Take notes on the feedback (e.g. things that were difficult to explain and need more clarifying, other experiments that need to be done, etc). Each presentation builds on the one before it! 

Too many graphics without explanation can create the same confusion as too many text blocks without graphics.
HOW TO MAKE A GREAT POSTER

by Dina F. Mandoli, University of Washington, Department of Botany, Box 355325, Seattle, Washington 98195-5325

Making a great poster can be fun and is certainly a challenge! Here are some ideas about how to get the most attention for your efforts.

I. A GREAT POSTER IS...

readable,

Readability is a measure of how easily the ideas flow from one item to the next. Text that has lots of grammatical problems, complex or passive sentence structure, and misspellings is “hard to read”.

legible,

If a text is legible, it can be deciphered. For example, an old book may not be legible if the paper has corroded or the lettering has faded. A common error in poster presentations is use of fonts that are too small to be read from 6-10 feet away, a typical distance for reading a poster.

well organized, and

Spatial organization makes the difference between reaching 95% rather than just 5% of your audience: time spent hunting for the next idea or piece of data is time taken away from thinking about the science.

succint.

Studies show that you have only 11 seconds to grab and retain your audience’s attention so make the punchline prominent and brief. Most of your audience is going to absorb only the punchline. Those who are directly involved in related research will seek you out anyway and chat with you at length so you can afford to leave out all the details and tell those who are really interested the “nitty gritty” later.

II. TWO WAYS TO MAKE A POSTER ARE TO

have someone else do it, or

A professional illustrator will ask you about all the items in this presentation! Although they will execute the work, you are the final arbiter of the quality and content of the poster.

make your own.
Designing the poster elements. Most posters are most quickly made using some kind of computer software. A word processing program plus a few graphics packages (e.g. CricketGraph, MacDraw Pro, Aldus Freehand, Adobe Photoshop for IBM or MacIntosh) are important tools. If you have not tried computer graphics or are just starting out, find someone whose poster you like and ask them what they use and if they like it.

Printing the poster elements. There are many ways to make the elements or parts of your poster.

**Computerized word or graphic images** printed on paper.

**Laser prints** made directly from color slides are inexpensive, easy to mount poster elements. A printer used for printing manuscripts for submission is essential (dot matrix is just not legible).

Cannon color copiers print **color laser prints** either from a printed image or directly from a slide for less than $2.00 each (try Kinko's or other commercial copy center).

There are also **prints with high resolution** and a waxy finish made via a process called "dye sublimation". This process gives great color but tends to blur edges of the images because of the way the dye is layered.

**Hand drafting** can be scanned into a computer and "prettied up" in a graphics program such as Aldus Freehand.

**Photographs** can be touched up with Adobe Photoshop. State exactly what modifications have been made to the images - it is very easy to alter your data and you must be able to defend any and all of your changes.

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**III. TO BEGIN:**

*decide what the main message is,*

Keep it short and sweet and make this your title! Use the active voice (i.e., avoid "ing" on the ends of verbs) and avoid the verb "to be" whenever possible.

*measure the space you have,*

Lay out the space physically as well as on paper to double check yourself. If you can, make the poster flexible enough to change the size by adding or omitting elements. This flexibility is handy if you are going to more than one meeting, if the poster boards are not exactly the size advertised, if the meetings have different in size requirements for posters, or if you wish to update your data between meetings.

*lay out your elements crudely,*

Before you actually spend time making the final elements of the poster, take pieces of paper that are about the right size and see if you can actually make it all fit. This will save you a lot of time in the long run.

*ELIMINATE all extraneous material,*
Given that the average poster gazer spends less than 10 minutes on your work and you have 11 seconds to trap your subject before they move on, only show data that adds to your central message. You do need a Title, Authors, Introduction, Results, and Conclusions. Some meetings require you to include the abstract also. Usually, omitting Materials & Methods is fine: most people will not read them anyway. If you wish, have a methods handout for those who ask for it. Although sometimes the method is essential to understand the data or the validity of the conclusions, most of the time, a short version here will do as well.

begin to make individual components of the poster!

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IV. POSTER LAYOUT

How to arrange poster elements and text within each panel.

People approach new information in a known spatial sequence: we track vertically from center to top to bottom, and horizontally from left to right. This means that you should put the most important message in the center top position followed by the top left, top right, bottom left, and finish in the bottom right corner. That's why the poster title should be your punch line because, in that position, the title and your name will be seen in the first 11 seconds that a person looks at the poster.

The overall format of a good poster is dictated by the way we assimilate information. For example, you would never put your first panel on the right and ask your reader to proceed to the left because we are not trained to read that way. Newspaper format, two vertical columns that are arranged so that you read the left one first and then the right one, is highly "readable" since the reader does not spend time figuring out which panel to read next. A left to right horizontal rows arrangement works too but is not as common. You can easily walk around any meeting and find lots of variation.

Space is important in a poster: without it, your reader has no visual pauses to think. Books leave space on the margins and by having chapters. Posters that are crammed with information are tiring to read and are seldom read in their entirety. Omit all extraneous text or visual distractions, including borders between related data and text, so the reader can assimilate your ideas easily.

Size of poster elements or the fonts in each element can serve to emphasize the main points. For example, making your subheadings in all capitals and two font sizes larger than the rest of the text on the same panel will draw the reader's eye first, and so be emphasized. The use of multiple fonts in a poster can distract from the science.

You will lend the most power to your words if you spatially arrange the text in each panel of your poster following the same principles used for the poster layout as a whole. A common street sign reads "go children slow". Because the word "children" is in capitals larger than the other words and is in the center of the image, you read "Children, go slow" even though that is not the actual spatial arrangement of the words in the sign. This sign is powerful, succinct, and highly readable.

Practical matters.

It takes time to make a great poster. Allow 2 to 3 days to assemble all the bits and pieces, such as photos or laser copies, and then 1.5 to 2 days to cut all the boards and assemble the poster physically. That last bit of data you rush around to get at the last moment will go completely unnoticed if your poster is messy and disorganized i.e. illegible and unreadable.
It costs from $50 to $150 to make a poster depending on how you have it printed. Assembling your own poster on mounting boards is cheapest and one piece, color dye emulsion prints that you can roll up to transport are the most expensive. If you have poster made for you it can cost from $300 to $3,000 (average of $550.00 at the University of Washington) depending on how much of it you do yourself.

Portability is worth considering. The poster should fit into carry-on luggage so that even if your suitcase is lost, you can still present your work. If all your poster panels can stack and be packaged together, so much the better.

A great poster is easy to assemble on site and can be flexible in assembly in case the poster space is smaller than advertised. If you cannot mount the poster by yourself or the poster is awkward for one person to mount on the materials provided, be sure you arrange for someone to help you. Often the person next to you will be glad to exchange labor. A map of how the poster should look when it is done is handy when you need to work quickly, are distracted or nervous.

We recycle our poster boards by peeling off the old data and text and glueing on new material. Of course this means that you stick to the same style but it also saves time, money and trees.

Posters can be made in many styles. Roll-up single piece prints, individual boards, hinged boards that fold together all have their pluses. The style you chose is a matter of cost and personal taste.

VI. FONT CHOICE:

sizes,

Font sizes need to be big to be effective. A good rule is to stand back from your own poster: if you, who are familiar with the material, cannot easily read it from 6 feet away, your audience will certainly not be able to.

highlighting with text format,

Indents set text apart and are great for short lists.

Justification of text in the center of a line will draw attention.

basic font choice and highlighting with font variations,

Choose a basic font whose "e’s" and "a’s" stay open at all sizes and that is supported by your printer. Bookman, Helvetica, and Geneva are examples of good choices. If your font is not supported by the printer, you will get ragged edges on all your letters.

Highlighting a few parts of the text is done easily with:

/ capitals as in the "go CHILDREN slow" or the "Stop...." street signs,
/ Zapf dingbats instead of numbers for simple lists of things,
/ wrapped letters that arc around an image,
/ switch styles (bold, italics, shadow, etc.).
V. COLOR

ways to add color,

Mounting boards are a fast way to add a color border to poster elements. Choosing a color that does not compete with your data is wise.

LaserFoil is a new product that allows you to make your printed words from a laser printer come out in color. Available in mat, glossy, and “prism” finishes, LaserFoil can add pizzazz to a poster.

Colored yarn can be effective in visually linking poster elements.

Colored graphic tape or dots, and white arrows (Chartpak, Letraset) can be quickly applied to poster elements to draw attention to the elements you wish to.

contrast,

Proper contrast will reduce eye strain and make the poster more legible and interesting visually. Again, be careful that the color does not outclass the visual impact of your data: too much contrast is hard on the eyes and can distract the reader from your data.

Adding light color backgrounds to your figures can make the poster attractive. For example, using white lettering and lines on a blue background can make your poster eye-catching. Like a painting, poster elements can also be double matted to add interesting contrast.

fidelity of reproduction,

Images do not stay the same between one medium and the next and this is especially true for color quality. Although it is efficient to use computer-generated color slides as poster elements, you lose some fidelity in doing so. For example, the edges of letters will blur slightly in going from a slide to a printed image or vice versa. Also, the colors you see on your monitor are usually not what comes out on the slide or on the final, printed poster element. You can “adjust” your monitor and check professional color books that show what the slide film recorders will print. However, it will not be an exact match from screen to print no matter what you do. Automatic film recorders used to print computer images also vary from model to model and from run to run just like photographic printing machines do. To keep the color “true”, request custom printing. A good rule of thumb is to switch media as few times as possible.

VI. FINAL CHECK BEFORE YOU ASSEMBLE THE POSTER

Have some people look over your poster before you put it all together. If they are confused, it is far better to fix it now than to lose people at the meeting. Pay particular attention to things that may not be necessary: eliminate everything that you can!
VII. POSTER ASSEMBLY

It is trivial to assemble a poster once you have decided on and made all the individual elements. Be sure to give yourself enough time to assemble the poster. Keeping your hands and the work surfaces clean helps to produce a great looking poster.

List of materials and tools needed.

individual poster elements (8” X 10”) (print 2 of each in case of goofs in gluing), mounting board (I use 10” X 12”), colored paper panels about 1/4” larger than your poster elements that will be double borders around the data, adhesive, e.g. 3M Sprayment sharp Exacto knife or razor blade, sharp paper cutter, ruler, soft pencil and eraser, T-square (optional but very handy) large surface covered with paper or newsprint to work on, clean paper and some tape to wrap the poster in for travel.

I like to take a map of the final layout with me so that I don’t make a mistake in putting the poster up. Some people number the backs of their poster elements. I always take my own tacks: I prefer the stainless steel 1/2” ones so I know the poster will stay up for the whole meeting and that I can actually get them into the poster board.

Good luck and have fun making your poster and showing it. Displaying your finished work is a big accomplishment so take time to enjoy it and your interactions at the meeting. Remember that enthusiasm is contagious. Be on time and enthusiastic about showing your poster to colleagues at the assigned times during the meeting - it a fine chance to advertise yourself and your work!

http://www.stanford.edu/dept/undergrad/urp/SURP/poster.html

Poster Design: Tips and Resources

Fundamentals of Poster Design | Online Resources | Other Poster-Design Resources

Posters are a specialized means of communication that demands careful planning and design to assure that your audience will understand your research project and results. The following sections of advice and resources should help you to create an effective poster:

Fundamentals of Poster Design: TOP

Basic SURP Poster Construction Guidelines:
Dimensions: Maximum 4’ high by 3’ 8” wide.
Mounting: Posters should be mounted on poster board or foam-core, so that they will stand up on their own if displayed on an easel.

Best Practices in Planning and Design:
No matter what the discipline or stage of the research process being presented, an effective poster is:

- attractive
- well-organized
- self-explanatory
- careful in linking text and imagery
- appropriate to the audience at hand

Follow the 5 steps below when you design your poster, and you'll be more likely to achieve all of these characteristics of effective posters.

**Step 1:** Determine the single most important message of your poster by asking yourself: If my viewer carries away one idea, what do I want it to be? Or, what is the big, take-home message that I want to convey? The answer will be the central theme that determines your entire poster design. It should be clearly expressed in the title (which should be the largest piece of text on the poster, readable from at least 5 feet away), and should be supported in every element that you decide to include in the poster design.

**Step 2:** Decide the major sections of information that you will include to support your main point, and organize these into a logical flow of information. Many effective posters include sections such as: a statement of the problem or question investigated, a description of the method used (if relevant), results or conclusions, or, if this is a work in progress, next steps or future directions. But you should adapt these section categories according to your project, method, and stage in the research. The important point is that your information be divided into chunks and blocks, and then organized into a self-explanatory, logical progression that someone can understand even in your absence. Think carefully about your audience as you compose your text. The SURP audience will be multi-disciplinary and well-educated, but not necessarily specialists in your field. Finally, keep in mind that you can only make a limited number of points in the space of your poster, and, often, less is more.

**Step 3:** Select images and graphics that are closely tied to your major points. There should be a clear reason for each image, and each image should be tied to the text. Avoid cluttering the poster with too many images—if the connection between an image and one of your main points is not immediately clear, don't include it just for the sake of visual appeal. At the same time, be sure that your poster is not too text-heavy and, thus, unappealing or overwhelming. Aim for balance between text and graphics.

**Step 4:** Experiment with layout and presentation. Move things around before gluing down. Decide on a layout that best fits the 5 characteristics above. Some design basics to keep in mind:
• White space (the area not covered with text or graphics): not too much (or the viewer's eye will wander), not too little (or you'll confuse and overwhelm your viewer).
• Fonts: 18-24 minimum font size. Not more than 3 or 4 text fonts. Avoid all capital letters, except in titles.
• Color: Background should be a solid color, not a pattern. Avoid juxtaposing colors that clash or that fade each other out. Avoid too using too many colors. Use more intense colors only as borders or for emphasis, but be conservative—overuse of color is distracting.
• Cropping, Margins, and Spacing: All edges and margins should be straight and even. Use a ruler and razor knife. Don't overcrowd space, and be attentive to balance from top to bottom and side-margin to side-margin. Organize your elements into columns, rather than a book-style, left to right page-layout.

**Step 5:** Do a final edit of text, graphics, and the links between the two to assure that your poster meets the 5 characteristics above.

**Online Resources for Poster Design:** TOP
Most of these resources are from the science/engineering realm because this style of presentation is so common at professional meetings, etc. However, the content of and graphic design tips apply broadly to other disciplines.

NASA Space Grant Consortium

SUNY Buffalo Libraries

American Society of Plant Biologists: How to Make a Great Poster

Kansas University Medical Center

U.S. Department of Energy: Environmental Management Science Program

**Other Poster-Design Resources:** TOP
Take a tour of campus buildings, especially in the sciences, and look at the research posters displayed along the walls. The GeoCorner has many good examples.

Consult web sites for your discipline's professional societies. If posters are commonly used in meeting presentations, you will often find tips for presenters on their meeting pages.

Contact Stanford's Center for Teaching and Learning and their program in Oral Communication. They have consultants who are happy to work with presenters: TeachingCenter@stanford.edu.

Special thanks to Robyn Dunbar of the Center for Teaching and Learning for the information contained in this page.