

Tricks of the Trade

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Making a great poster

Presenting a poster at a conference is one of the three main ways, besides publishing papers and giving talks, to communicate your science. Doing a great poster instead of just an OK poster can increase your audience (potentially broader than if you were giving a talk) and provide valuable feedback. In addition, it can allow you to refine your methods and hypotheses, and even establish new collaborations. And just think how winning a “Best Poster Prize” will enhance your CV and your ego. Doing a great poster doesn’t necessarily take more time, but it requires careful planning.

One of us was a judge for the student poster competition at the last annual meeting of the Entomological Society of Canada in Montreal. Although overall the posters were good, we thought that some guidelines could make many posters more effective. We have made only a few posters ourselves, with variable success (one of us won a student competition prize a few years ago). Having natural artistic and communication skills are advantages, but even without those, you should be able to prepare at the least a decent poster if you follow a few rules.

Many researchers pay little attention to posters during conferences. This is in part because attending talks can be tiring. Therefore, posters should be designed for tired meeting attendees! In that case, an effective poster must be attractive, and persuade people to stop and to stay longer than the usual 10 seconds. It must be simple and rapidly understood; and have a take-home message that people will easily remember.

Attractive, eye-catching

The following aspects will help people come closer and stay longer:

- a short, simple, punchy title
- harmonious, highly contrasting colours
- striking images
- simple, tidy layout

The title may be the single most important component of your poster. It must be straightforward and must clearly define your topic. It should be short, preferably on one line. If possible, it should convey your take-home message. If your title has style or peaks curiosity, it could also capture the attention of someone only remotely interested in your field. Don’t be too clever with the title. Wordplays should be used cautiously as they may leave the viewer with little idea of what the study is about. A title made of a question has some appeal because it forces the viewer to seek the answer. Other good titles are ‘answers’ or statements. In brief, the title has two roles: attract readers, and provide a message.

Don’t pick random colours. Would you do that if you were painting your apartment? Text laid on a coloured background can be more attractive than black text on a white

background, but be careful. The background should be a single colour and can be either dark or pale. To be highly legible, text must contrast strongly with the background. Never put colours of competing luminosity next to each other. For example, while red on blue can look good on the computer screen it doesn’t work for distant viewing. The background should not distract from the actual data. Text and graphs on white backgrounds have the advantage of leaving all the prominence to the actual data. A trick to increase contrast between an element and the surroundings is to add a contrasting border around it or to put it in a coloured box.

Images on a poster are a bit like the furniture inside an apartment. If you’re looking for an all-furnished apartment, and one is nicely furnished, you will consider renting it. A poster with stunning images of meaningful content will entice viewers. Effective images are sharp, nicely contrasted to the surroundings, and, not the least, convey information. Useful images can represent your study taxon, the habitats to be conserved, the methods, or your results. Use images on posters but never as a background for your poster.

Finally, attractive posters tend to have a simple, tidy layout, with good proportions of text, images, and blank space (Figure 1). A poster overloaded with text or cluttered with a multitude of small images will deter readers. This is subjective, but a ratio of 1/4 - 1/2 text, 1/4 - 1/2 images (including photos, figures and tables), and 1/4 blank space is a good general rule. Space bordering the poster and between paragraphs and images allow readers to digest information before passing to the next block of data. **Large blocks of continuous text can immediately repel readers.**

Simple and straightforward

Step one – check the size and shape requirements for poster presentations for the meeting you are attending. This means you don’t have to do a total reorganization at the end.

Step two – you should construct your poster so that essential information can be assimilated within a few minutes. A poster is simple and straightforward if it has not too much information, and is well organized and tidy. Such a poster has:

- limited text (ideally <500 words)
- large font size
- well-defined sections with short headings
- a clear flow among sections
- a few simple tables and images

Little text with big font is the key. A font size of 28-40 should make the main text readable from 2 m. Your title should be around 100-120 to be readable from 5-6 m. Subheadings should be of intermediate size. Don’t use capital letters as this is more difficult to read than lower case words. Text in figures and tables can have smaller font than main text, but should be a minimum of 14. Choose a font style that is highly legible, especially for the main text. Arial and Comic Sans MS are among the most legible styles because they are sans-serif (without ‘serifs’ or decorative features at the end of strokes) and they have thick strokes.

Organize your poster into clearly divided but logically connected sections. Use simple headings, boxes, arrows, and outstanding colours to draw your readers through them. Sections should first be divided vertically, and then horizontally, to prevent people from moving left and right too often. Each section should carry a single main idea. Point

format (bulleted text) is more rapid to understand than normal text. **Complete sentences are not necessary.** Use short, simple, non-jargon words so that even readers not familiar to your field can understand. If you really have to use technical terms, then briefly define them in parentheses or in a small glossary at the end. Go through at the end and look for unnecessary words.

When deciding whether text or image should be used for a given section, choose the method that most clearly and rapidly gives the story. Remember that an image is worth a thousand words. **Eliminate everything that is superfluous!** People really interested in your research will seek you anyway for discussion of details.

Use common sense. Always ask yourself: is this the best way I can present and explain my research? Is this word, sentence or section really necessary? Is the poster straightforward enough so that viewers can easily grasp my take-home message?

A take-home message

A poster that has a clear take-home message will have a much stronger impact and will make people remember something about your poster, instead of being just 'another nice poster'. Your take-home message can be 1-3 key points that you want your readers to remember. Everything in your poster should be structured to emphasize your take-home message. Ideally, a reader should see your take-home message from your title, figures, or conclusion alone. If you're not sure what is your take-home message, ask yourself: 'if people could remember only one thing about my poster, what would I want it to be?'

More on the content

A research poster should include:

- An introduction, providing the context of your study, why it is important, and your objectives or questions.
- The methods used. This section should be highly condensed and limited to sufficient details for the readers to understand how your study was done, and to see whether your design was adequate to test your hypotheses. If your method can be more rapidly grasped using a photo or diagram of your design, use one.
- Your findings. They should be clear and straightforward. Generally, figures and tables are self-explanatory and supported by little text. Figures should have an informative, concise caption, and possibly additional text or arrows to identify items or draw attention. Don't overcrowd your figures or tables so that people get confused or deterred by it.
- A discussion or conclusion. Here you should interpret your results and discuss their implications to put your study in a broader perspective. What do your findings all mean? What does it add to previous knowledge in the field? What is your take-home message? You can briefly state whether your findings support or contradict other studies, and mention any limitation that your study has. But remember – this is not a paper. Be concise and give the main points.
- Authors, affiliations, acknowledgements, references. People are likely to ask you questions. Therefore it is nice to have complete first names on the poster and a small picture of yourself. Limit references to the few most significant ones. You should acknowledge people or institutions that made significant contribution to the study or the poster, including those that provided financial assistance. Adding your contact information such as email address is useful. An abstract on your poster is not necessary because your poster is already a 'summary' of your study.

It is not imperative that your poster have clear-cut sections as defined above. An alter-

native is to present your study as if you were telling a 'story'. As long as the critical elements (context, problem, etc.) are all treated logically in your poster and are easy to follow, any reader (and judge!) with common sense should appreciate your poster. Also, it is not imperative that you have results. A poster showing a research proposal or preliminary results can be satisfying to readers.

Catastrophe prevention and in the heat of the session

Prepare your poster several days or weeks ahead of the conference. This will allow you to: 1) get people's opinion on your poster before final print, 2) find a business that have the paper quality and size you want, 3) avoid getting caught at the end of a line-up, and 4) avoid unnecessary stress related to a possible disaster (not having any poster ready for the conference!). Carry your poster with you in a protective tube – don't check it in – and keep a copy in your memory stick in case you lose it and need to print it again, to avoid further catastrophe.

Finally, you should not overlook your role during the poster session. Your active presence will help you connect with people. Stay around your poster at least during the allocated time for the poster session, and seize occasions to discuss with people that show extra interest. Some people are happy for you to walk them through your poster. Be prepared to summarize your poster clearly and concisely – why your study was important, how you did it, what you found, and what does it mean – within a minute or so. Carrying business cards, handouts copies of your poster, or reprints of your own published papers can be helpful. A great poster accompanied by a friendly, interested presenter, can bring fruitful conversations and impress. In turn, that can lead to collaboration offers or even job opportunities.

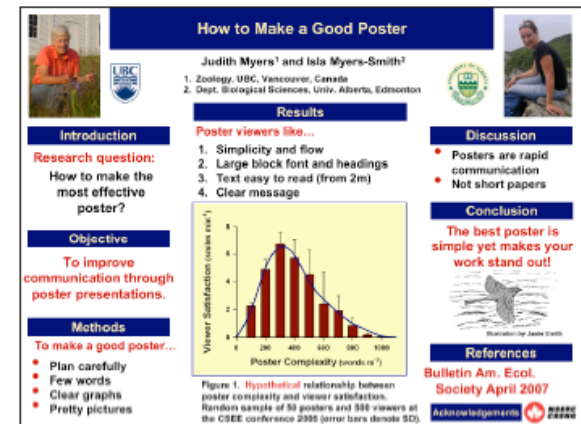


Figure 1. A sample outlining the qualities of a great poster. Adapted Ecology 101, Tips for effective communication in Ecology. Bulletin of the Ecological Society of America, April 2007.