How to Make a Scientific Poster

Conference Attendees Will Look at Your Poster Only Briefly, So a Clear Presentation Is Crucial

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Introduction

A scientific poster is an illustrated abstract of research that is displayed at meetings and conferences. A poster is a good way of presenting your information because it can reach a large audience, including people who might not be in your field. It is also a useful step towards publishing your research. Some conferences publish poster abstracts, which then count as publications in their own right.

A successful poster captures the viewer's attention and communicates the key points clearly and succinctly. One author reviewed 142 posters at a national meeting and found that 33% were cluttered or sloppy, 22% had fonts that were too small to be easily read, and 38% had research objectives that could not be located in a one minute review.[1] Avoiding these mistakes is important to ensure your poster has a positive impact.

Where Do I Start?

If you have completed a project, you will need to research the right meeting or conference to submit your abstract to, if you have not done so already. You might need to ask your supervisor or consultants in the field of your topic for information about relevant conferences at which you can present your work.

You will usually be asked to submit an abstract online. The submission guidelines on the website should guide you on how to do this, as well as provide other valuable information such as formatting instructions and deadlines. Your abstract should state why your work is important, the specific objective or objectives, a brief but clear explanation of the methods, a summary of the main results, and the conclusions. I would not recommend adding the abstract to your poster unless this was stated in the conference guidelines because a poster is already a succinct description of your work; use it as an outline for your poster.

Follow submission guidelines carefully because they differ among meetings. Start putting your poster together early to avoid the stress of last minute printing queues.

Designing the Poster

According to the 10-10 rule, attendees spend only 10 seconds scanning posters as they stroll by from a distance of 10 feet.[2] Your poster should be well laid out, with a visual representation preferable to large chunks of text. Diagrams, tables, and photographs aid readability and attract people. Guide the viewers's eyes from one frame to another in a logical fashion from beginning to end. Set up this pattern via a columnar format, so the viewer reads vertically first, from top to bottom, moving across the columns from left to right.
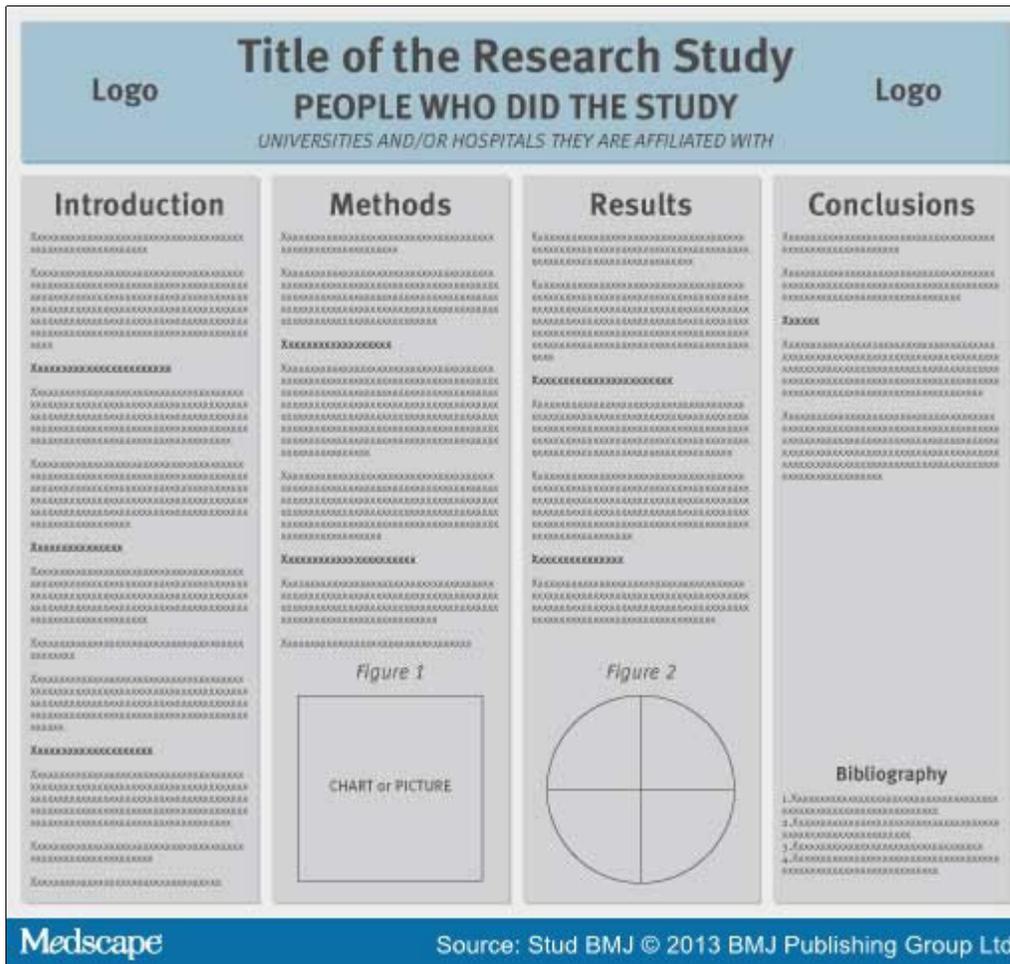
Figure 1.

An example of a poster. Using information from www.postersession.com

Text and Font

It's important to make the writing in your poster clear and easily understandable—remember that readers won't give it much time. Use plain language and write in the active voice ("We did this," rather than, "This was done.") Avoid jargon and acronyms. Use simple language and short sentences. Edit ruthlessly. If it's not relevant to your message, remove it.

Avoid using uppercase text for more than one sentence because it becomes difficult to read. Keep text to a minimum. Whenever possible, use bulleted text rather than blocks of sentences and leave blank space around the text and throughout the poster.

Use sans serif fonts such as Arial or Helvetica, or fonts such as Times or Times New Roman, which are generally considered to help legibility for posters. If you want a different look, consider Baskerville, Century Schoolbook, or Palatino. The font should be consistent throughout the poster and text should be legible 5 to 6 feet away. Use at least 85 point for the title, 56 point for the authors' names, 36-44 point for subheadings, 24-34 point for text in the main body, and 18 point for captions.

Colour

Use colour to attract attention, organise, and emphasise, but don't overdo it. Use a maximum of two or three colours and consider people who have problems differentiating colours. One of the most common forms of colour blindness is an inability to tell green from red. Black type on a white background is standard practice, and patterned backgrounds should be used with

caution.

Software

Microsoft Powerpoint is easy to use and most people have access to it. Lay your poster out on a single slide. There are several other programs that can be used to design a poster, such as QuarkXPress,[3] InDesign,[4] LaTeX,[5] and Scribus (a free download).[6] These programs allow control of text wrapping around images and text flow among associated text blocks. One piece of software specifically targets the scientific poster market: PosterGenius.[7]

Layout

The title is most effective when it refers to its overall "take home message." It should include the scope of the investigation, the study design, and the goal. In general the title should highlight your subject matter, but need not state all your conclusions. It should be about 10-12 words long and the font size should be large, 85 point. If things don't fit, shorten the title; don't reduce the typesize. And remember, titles that are in uppercase lettering are hard to read.

The author who was involved most is listed first and the most senior author is listed last. Some posters will have the addresses of the institution to which the authors are affiliated.

Break up your poster into sections, much like a scientific article. Label all the sections with titles: introduction, methods, results, conclusion, references, and acknowledgements.

Introduction

Write a few brief sentences to identify what is known about the topic, why you did the research, and the aim or aims of your work. This section can also include your hypotheses, which usually go at the end of the introduction.

Methods

Explain what you did. For a study involving people, you should explicitly state whether the study was retrospective or prospective, and whether there was randomisation. Your data analysis and statistics used should also be described, including what P value you chose to indicate significant differences.

Results

Select the most important results that support your message. Images and graphs say more than words. Tables and figures should be used to illustrate your study's results, and they should be clear, self explanatory, and uncomplicated. They should be numbered, and referred to by number in the text—for example, "see figure 1"). Make sure figures have a title and a legend. Keep text to a minimum. Graphs and charts should have an appropriate scale and labelled axes. Orient text for graphs horizontally, including labels for vertical axes.

Conclusion

Write short, clear statements explaining the main outcomes of the study and why your results are interesting or important. You can also suggest future directions for research that build on your current study.

References

References should be limited to five, and the font size should be smaller than the poster text. Check on the organisation's website for formatting instructions.

Acknowledgements

Write up a short acknowledgement section to thank those who helped you to complete your research, such as your research group or funding source. You should disclose any conflicts of interests that might exist.

Practicalities

Find out if the library based at your hospital site has the facilities to print your poster. Alternatively, you could upload your poster onto an internet site that will print and deliver the poster to you. Some conferences print posters on site so that you can collect them when you arrive.

If you do upload your poster online, make sure you set the dimensions on the file to match those in the conference guidelines. If you are travelling with your poster, make sure it is packaged in a plastic tube to protect the paper from getting damaged. If you are travelling by air, you should inform the staff at the check-in desk that you have extra hand luggage so that you do not have any problems taking your poster onto the aircraft.

Presenting the Poster

When someone stops to look, you should be able to introduce your poster in 10 seconds and that person should be able to assimilate all of the information and discuss it with you in 10 minutes.[2] Some conferences will allocate time for you to present your poster to a small group of colleagues who also have posters in the same category as you. Check the conference website for details.

Place a note on your poster board listing the times you will be available by the board for those who would like to discuss the poster outside the formal presentation time. Prepare mini sized poster handouts or handouts of the key points for participants to take away. Make it easy for a conference attendee to contact you afterwards. Have your contact details clearly displayed on your poster and handouts. Posters are a great way to gain feedback from your colleagues and for networking and collaborating, and this should support you in writing up your research for publication.

Websites With Examples of Scientific Posters

1. http://phdposters.com/gallery.php

2. http://www.ncsu.edu/project/posters/ExamplePosters.html

3. http://www.writing.engr.psu.edu/posters.html

References

1. Hess GR, Tosney KW, Liegel LH. Creating effective poster presentations: AMEE guide no. 40. *Med Teach* 2009;31:319-21.

2. Boullata JI, Mancuso CE. A "how-to" guide in preparing abstracts and poster presentations. *Nutr Clin Pract* 2007;22:641-6.

3. QuarkXPress. http://www.quark.com/.

4. InDesign. http://www.adobe.com/products/indesign.html.

5. LaTeX. http://www.latex-project.org/.

6. Scribus. http://www.scribus.net/canvas/Scribus.

7. PosterGenius. http://www.postergenius.com/cms/index.php.

Competing interests

None declared

Provenance and peer review

Commissioned, not externally peer reviewed