Design of Scientific Posters

Posters are a special type of presentation. When well designed, they are not simply journal papers pasted onto boards. Nor are they mounted sets of presentation visuals. Rather, posters, when effectively designed, are something in between. This document discusses the special situation that a scientist or engineer faces when designing a poster and then suggests some guidelines to address that situation.

The purpose of scientific posters is to present work to an audience who is walking through a hallway or exhibit. In poster presentations at conferences, the presenter usually stands next to the poster, thus allowing for passers-by to engage in one-on-one discussions with the presenter. In other situations such as the hallways of laboratories, universities, and corporations, posters are stand-alone presentations for passers-by. For a poster to communicate the work, the poster first has to orient an audience that is not seated, but that is standing. Often the audience has distractions of noise and movement from other people. Given those distractions, a journal article tacked onto a board fails as an effective poster because the audience cannot concentrate for a time long enough to read through the paper. In fact, given the distractions that the audience faces, many in the audience will not even bother trying to read a journal article tacked onto a board.

So what then makes for an effective poster? This question is not easy to address because the expectations by the audience vary significantly from discipline to discipline. For instance, what an audience of a medical poster session expects differs significantly from what the audience of an engineering poster session expects. Nonetheless, this web-page tries to present some general guidelines that would apply to most situations in science and engineering.

First, the title of an effective poster should quickly orient the audience. Here are some guidelines for poster titles:

1. Make the title the most prominent block of text on the poster (either center or left justify at the top).
2. Do *not* typeset the title in all CAPITAL LETTERS (such text is difficult to read).
3. Use small words such as *of, from, with, to, the, a, an,* and *and* to separate details in the title.

While phrase titles are most common, some scientists and engineers effectively use sentence titles for posters that present one main result. In such titles, state the result in the title and capitalize the words as you would in a sentence. Because the sentence title is a stand-alone, as opposed to being part of a paragraph, the period is generally dropped.

Second, the poster should quickly orient the audience to the subject and purpose. One good test is whether the audience recognizes the subject and purpose within 20 seconds of seeing the poster. Usually, a poster accomplishes this goal with a well-crafted title and with supporting images. Also, make sure that the type is large enough to be read and that enough contrast exist between the color of the type and poster's background.

Third, the specific sections such as the results should be easy to locate on the poster. Once readers recognize what the work is, they decide how much energy to invest into the poster. For instance, many will read only the motivation for the work, the objectives (or goals) of the work, and then the final results. Others, who have a deep interest in the topic, will try to read the poster from beginning to end. Given these different approaches to reading posters, another characteristic of an effective poster is that specific sections are easy to locate.

Fourth, you should design the individual sections of a poster so that they can be quickly read. Given the distractions that occur while reading posters in a symposium such as in Figure 1, the poster should not contain large blocks of text. Neither should the poster contain long sentences. If possible, the sections should rely on images: photographs, drawings, and graphs.

Figure 1. Learning Factory Showcase at Penn State [Lamancusa et al., 2006].

Figure 2 presents a poster that quickly orients the audience to the topic of the work. This poster also identifies the purpose of each section and then supports those sections in a manner can be quickly read. Figure 3 also presents a poster for a conference. Notice that this poster uses a sentence headline to identify the main result of the research.

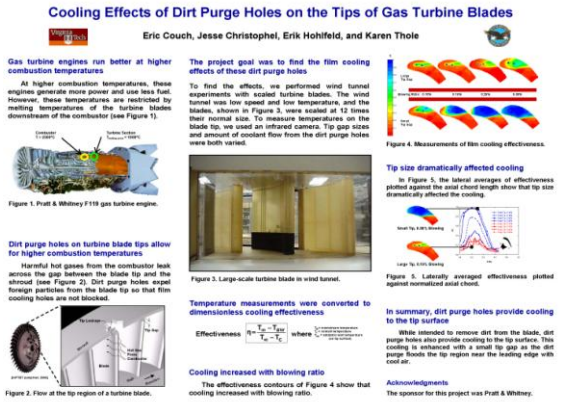

Figure 2. Poster that is well designed [Couch et al., 2003].

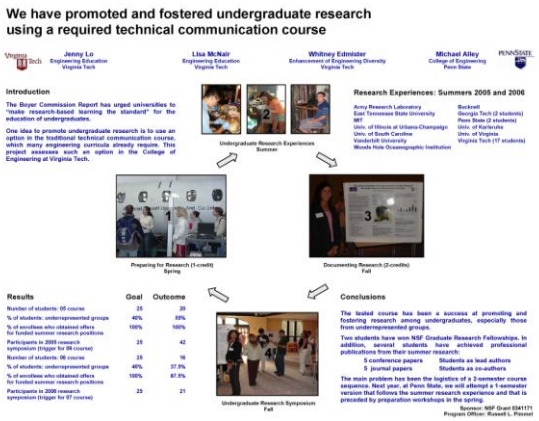

Figure 3. Poster that uses a sentence title [Alley, Lo, and Edmister, 2006].

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