The Poster Session: A Guide for Preparation

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Introduction

The primary purpose of a poster or oral presentation at a scientific meeting is communication of information and ideas to one's colleagues. The poster format has become an increasingly popular form of communication. At AAPG and GSA annual meetings between 1977 and 1988, the number of poster sessions has risen from less than 10% to about 40% of total presentations. There are a number of reasons for this popularity. Although most material could be presented either orally or in poster format, some material particularly lends itself to graphic presentation. Many authors prefer informal individual discussions with their illustrative material at hand to the prospect of speaking to a large audience in a formal setting. Authors and viewers alike find the opportunity to exchange ideas freely and at length to be rewarding. Viewers appreciate being able to take a quick walk past a large number of presentations (no captive audiences here!) getting the gist of a lot of science, and then returning to the displays they find of greatest interest.

Abstracts for poster presentations are published along with those for oral presentations — and carry the same prestige. Most scientific meetings now allow abstracts to be submitted for either an oral presentation or a poster presentation. At the larger three- and four-day meetings, poster sessions commonly run for a half-day each; authors are present during a specified period, generally at least two hours. During each of these half-day sessions there may be 30–80 posters displayed, so competition for attention is keen. At smaller gatherings a single group of posters may be shown during the entire meeting.

The Poster

As poster sessions are a fairly recent innovation, participants have had few guidelines to help them produce an excellent poster. They have mostly learned, in the typically scientific fashion, by observation — good science, uncluttered and colorful design, legibility and brevity of text, and straightforward organization equal a good poster.

The sponsoring society should inform the author of the specific location of the display area (by map and/or number designation) and the size and orientation of the display boards. Commonly, individual display areas have tack board mounted horizontally at eye level measuring 4' × 8' or slightly less. Three boards of this size, forming a booth, are not uncommon. Occasional vertical placement of the display boards by the organizers makes design of a poster difficult because so much of the area is well above or below eye level and should be discouraged. It is imperative that an author know the dimensions of the display boards — and whether they are horizontal or vertical — before designing a poster. The author should call the sponsoring society if it does not provide this information along with notification of acceptance of the abstract. It is also helpful to know the color of the display boards to avoid a color clash with the poster material.

As a general rule, allow six weeks of discontinuous work to prepare an attractive poster. This allows time to take photos or order photo enlargements, gather all materials, and actually execute the poster.

New and exciting ideas based on sound research can draw deserved recognition through a well-written abstract and an eyecatching poster design. Scientists must recognize that participants at a scientific meeting probably have not had the opportunity to read a particular abstract before they walk into the display area. Attention will invariably be drawn to posters with a crisp, clean design and a snappy title. The title must have this strolling audience in mind. It helps to think of a title as a newspaper headline vying for attention. Once the viewer has come to take a closer look at an interesting-looking display, all aspects of the design and the science work together to keep — or lose — the viewer's attention.

Science

Obviously, the story to be told should be interesting, and the research should be sound. However, the ideas need not be uncontroversial. Work that encompasses or might interest other disciplines — or has broad application and/or implications — is the type most likely to be accepted for inclusion in a poster session and receive considerable feedback.

A common criticism of poster sessions is that the author attempts to tell the entire research history. Present only enough data to support your conclusions. However, modesty is not a particular virtue; you should make the significance and originality of the work very clear because viewers from other specialties may not be aware of its importance.

Design

The subject of design is complex, and any rule can be broken creatively and pleasingly by one with an artistic flair. There are suggestions, however, that generally will make a poster more accessible, attractive and interesting.

1. At first glance from 10–15 feet away the viewer should see an easy-to-read title and an uncluttered, neat arrangement of photos and/or illustrations and text. It should be obvious where to start inspecting the poster and where to go from there (generally left to right, top to bottom). As this progression is vital, the component parts should either be numbered to facilitate this or have arrows that graphically lead the viewer through the display (Figure 1).
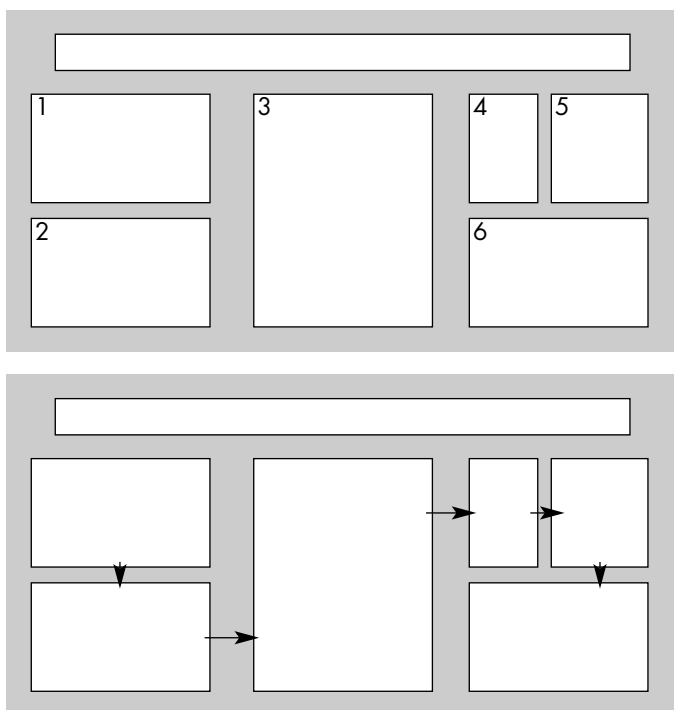

Figure 1. Two methods of leading the viewer through a poster: numbers, arrows.

2. Leave some open space in the design. The same rule applies as in packing a suitcase: when you're finished, take out half. Tightly packed space tires the eye and the mind.
3. Use elements of different sizes and proportions. Same-size and size-proportioned components result in a boring design. For areas of particular emphasis try a mixture of shapes and straight lines to attract the viewer's attention (Figure 2).
4. A large and/or bright center of interest can draw the eye to the most important aspect of the poster — a simplified, bold cross section illustrating a structural feature, a colorful paleogeographic map, a blowup of a photo of a new species, or a large outcrop photo illustrating depositional environments. Color poster prints, 12" × 18" or 20" × 30", can be ordered from photographic slides or negatives for a modest price at most photo shops.
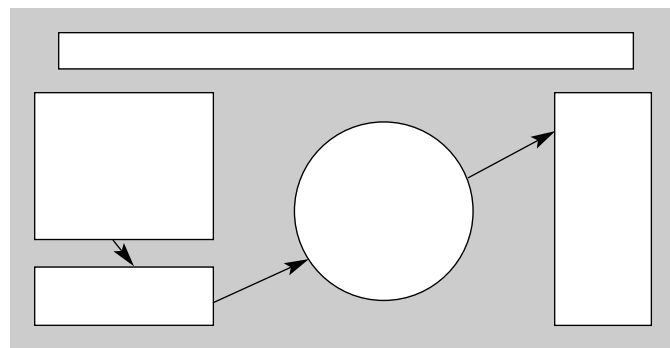

Figure 2. Attention-getting curved shape and lines.

5. Enlarge all photos enough for pertinent details to be clearly evident.
6. Make all illustrations simple and bold. Leave out any unnecessary detail in the story being presented.
7. Convert tabular material to a graphic display if possible. Try scatter plots, bar graphs, or triangular diagrams.
8. The inclusion of actual rocks or fossils is a nice touch. They can be fastened to poster board with silicone glue. Alternatively, if a table is included in the display area, specimens can be put there.
9. Make a scale drawing of your layout. Have a few colleagues comment on the overall design before final drafting. If you have access to professional drafting personnel, ask for their suggestions.
10. The main tenet of good poster design — simplicity.

Lettering, Line Weights, and Color; Computer Printouts

All lettering should be legible from five feet away. The over-40 crowd should not have to put on reading glasses. The minimum type size should be no less than 18 points, and the style should be bold or semi-bold in simple, clean-looking type (Figure 3). The title lettering should be the largest, about 2'–3', with subheadings ½"–1" high. Office and art supply stores have a wide variety of stick-on and rub-on individual letters in various colors and sizes that are ideal for titles and subheadings. The sponsoring organization may indicate it will prepare the title, but take along your own in case theirs is too small, as usually is the case. For material other than titles and subheadings, capitals and lower-case letters in combination are much easier to read than all capitals (Figure 4). Text material can be typed at about 12 points, then enlarged on a copying machine to be as large as 24 points without significant loss of clarity if a carbon ribbon and a clean type element have been used. This is an inexpensive method of producing very neat-looking text material (Figure 5). The typed material may also be enlarged photographically.

A professional appearance can be obtained by use of a lettering machine that produces strips of stick-on text. These

lines of text, in the final size, are applied to plain white paper and then photographed so that the tape does not show.

Both typed lettering and stick-on lettering can be combined with black and white line drawings before the final copy (copy machine enlargement or photograph) is made. Line drawings — maps, diagrams, fossils, cross sections, etc. — should use a line weight that will be no thinner than 0.70 mm (#2 pen) in the final product. Bolder lines are preferable. Keep the drawing simple and leave out all extraneous details.

This is 18-point type, the smallest size you should use. Can you read it from 5 feet away?

This is 24-point type. Better?

Figure 3. Examples of type size.

UPPER vs. lower case

MOST OF THE PRINTING MATERIAL FOR ORDINARY READING, AS IN NEWSPAPERS, MAGAZINES AND BOOKS, IS IN LOWER-CASE LETTERS EXCEPT FOR THE CAPITALIZATION OF A FEW WORDS SUCH AS PROPER NAMES AND THE INITIAL WORD IN THE SENTENCE.

"Most of the printing material for ordinary reading, as in newspapers, magazines and books, is in lower-case letters except for the capitalization of a few words such as proper names and the initial word in the sentence."

M. Tinker, "Legibility of Print,"
Iowa State University Press

Figure 4. Legibility of upper-case letters alone compared with combined upper-and-lower-case letters.

Color is as complex a subject as design, and it is not possible to give any set rules. Some authors prefer soft muted colors; others like deep or very bright ones. Any type can be used attractively, within some constraints. The temptation is to use color everywhere — don't. The viewer's eye will jump erratically around the poster instead of tracking through it to the crucial points. The less important parts of the poster — the necessary background information, the supporting data — will seem to recede into the background if done in cool or cool-neutral colors (blues, greens, and some grays). The featured parts can be highlighted by using warm colors (reds and yellows) or

black if the background colors are soft — or white if the background colors are bright or deep. In choosing colors be aware that lighting in the display area may not be optimal.

Color should be applied to black and white drawings after they are photocopied unless the cost of color printing is no object. Transparent or opaque sheets of stick-on color (use non-glare, matte-finish type) provide the most even shading. Colored stick-on tape comes in widths up to 2". The flexible kind can be used for line work. The standard kind is perfect for bar graphs and histograms, for borders, and as leaders from one element of the poster to another. Colored stick-on dots, squares and triangles are available in various sizes. Large arrows can be cut from stick-on tape or from stick-on color sheets.

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Figure 5. Typed text enlarged on copying machine to approximately 24-point size.

"Reverse-color" photo prints make a striking poster. These prints have colors the reverse of what were used on the original drawing. White background becomes black, black lines become white, red becomes blue, etc. A chart showing original colors to use to obtain the desired reverse may be acquired from some photographic studios, or advice may be sought from drafting shops or colleagues experienced in drafting for reverse color prints or slides.

A computer is an excellent tool for preparing text material for posters. However, standard computer printouts are poor material for posters. The standard type size is too small, and the line weight is too thin. If printouts must be used, enlargement can improve legibility of tabular material, and addition of color and enhancement of lines with stick-on tape can enliven graphics. Although standard computer printouts are not recommended for use on posters, illustrations using some computer graphics programs can be very effective, providing the guidelines on type size, line weights, and color are followed. Once the design is complete, it may be printed out in color, or the screen itself may be photographed. Consult your local expert on computer graphics for details of the available system.

Text

The text material included on a poster should be extremely brief, or most of the audience will walk away. Some authors like to include the full abstract as part of the poster, but they should not rely on its being read. More successful is placement of a succinct statement of major conclusions at the beginning of the poster — perhaps as an expanded subtitle. The supporting text is then presented in brief segments along with appropriate illustrations, and the significance of the findings is made forcefully and concisely clear at the end. Aim for "Wow!" from the viewer. Handouts of the abstract may be made available for interested viewers.

Mounting, Packaging, Displaying

All poster elements should be mounted with an adhesive on poster board or on $\frac{1}{8}$" foam-core board so that they will lie flat. A cleaner look is achieved if the caption is mounted on the same board as the illustration. A half inch or so of the colored poster board extending beyond the edge of an illustration attractively frames it. Select the mounting color carefully so that it does not overpower the picture. Illustrations mounted on the white foam-core board can be edged with colored stick-on tape.

   Posters often have to be taken to distant meetings. If you know you may be flying, make the poster elements small enough to package with the carry-on dimensions (generally 17" × 22"; call the airline to be sure) to avoid the panic of lost luggage.
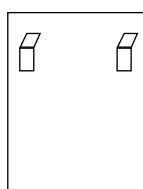
1. Attach tabs to back of mounted illustration. Leave upper half of tabs free.

2. Push thumb tacks through upper half of tabs.

3. Push illustration against bulletin board.

Figure 6. A method of invisibly attaching poster components to display board.

You may have only a short time to set up your display, so prepare for this in advance. Have these items in a poster emergency kit: tape measure, 9' length of string, box of clear push-pins (get longer than standard ones if mounted illustrations are thicker than ⅛") or box of dressmakers' round-headed pins, ordinary thumb tacks, roll of double-stick tape, scissors, glue, and a package of tissue paper. Have a sketch of the poster layout, with positions of a few key components measured off so you know where to place them. Set up a level line, if needed, by tying the string between two push-pins set a measured distance above the bottom of the display board. The poster elements can be fastened to the board without visible attachments as shown in Figure 6, or they can be attached with the push-pins (or dressmakers' pins) or with lots of double-stick tape. When you remove the display, if you've used double-stick tape, put a sheet of tissue paper between the components when stacking them to keep them from sticking together.

The Alternative Poster

The professional-looking poster discussed above has an attractive counterpart. The artistically inclined scientist can make a poster by sketching it entirely by hand. This has to follow the same science and design guidelines as previously described, but it is produced with colored felt-tip pens on poster board of pleasing complementary or neutral color. Text material (a minimum of 18-point type) is easy to do by hand with felt markers if there are lightly penciled lines to follow. This less formal kind of poster is fast and inexpensive to do, and if neatly and imaginatively done can have a very special charm.

Further Reading

Hansen, W. R., editor, *Suggestions to Authors of the Reports of the United States Geological Survey (7th edition),* Washington, D.C., U.S. Government Printing Office (in press),1989

Severson, R.C., Gough, L.P., McNeal, J. M., and Ropes, L H., "Poster Sessions: An Alternative to Formal Presentations," *GSA News & Information,* v. 1, p. 17–18, 1979

Singleton, Alan, "Poster Sessions: A Guide to Their Use at Meetings and Conferences for Presenters and Organizers," Elsevier International Bulletins, 50 pp., 1984) has helpful information for poster session organizers; listed suppliers of equipment are all British)