



# Guidelines for Authors for Preparing Posters

For questions regarding poster preparation please  
contact  
Chair, Program Committee Task Force for the  
2007 Midyear Meeting

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**TO: HPS POSTER PRESENTERS, 2007 MIDYEAR MEETING**

**FROM: HPS KNOXVILLE PROGRAM COMMITTEE**

Following you will find information that will help you prepare for your participation in the technical program at the 2007 Midyear Meeting. We are glad to have you with us and hope the experience is a good one. Much of the following material is patterned after that used at the Annual Meeting and provided by the Geological Society of America.

**CHANGE IN SPEAKER OR CANCELLATION:** As a courtesy to the audience, please let us know as soon as possible if there is a change in your presentation. If there is some last minute difficulty, please arrange for someone else to present your paper rather than canceling it.

For changes in speaker or program prior to the meeting, please call the HPS Secretariat, (703)790-1745, FAX (703)790-2672.

### **INFORMATION FOR POSTER PRESENTATIONS**

1. Poster boards will be in the Exhibit Hall with numbers corresponding to the numbers in the program. For your display material, there will be a horizontal, free standing 4'h x 8'w (1.22 x 2.44m) composition board. Boards may be an inch smaller in either direction. Electricity will not be available at every board. If you will need electricity at your board, you must also inform the Secretariat.

2. Each author is responsible for assembly and removal of his presentation. Set up is scheduled for Monday **between 3-4:30 pm**, with tear down 10:30 am-**by noon** on Wednesday. **The schedule calls for you to be at your board during the coffee breaks on Tuesday 10-10:30 am and 3:00-3:30 pm** to discuss your work one on one with participants.

3. If you plan to arrive later than the scheduled set up time, please make an arrangement with a colleague or a member of the Program Committee to do it for you. Presenters should bring their own materials for attaching illustrations to the composition boards (staples, stapler, tacks, pins). Please do not use tape. Materials left on boards after the removal deadline will be taken down and discarded. HPS accepts no responsibility for material that may be lost or damaged.

## **THE POSTER PRESENTATION: A GUIDE FOR PREPARATION**

by Carol Waite Connor U.S. Geological Survey

Author's note: This paper was originally written for geologists and published as U.S. Geological Survey Open-File Report 88-667. It has been reprinted by geologic and other scientific societies here and abroad. This version has been slightly modified for the general scientific audience.

### **The Poster**

The poster format has become an increasingly popular form of communication. At Geological Society of America and American Association of Petroleum Geologists annual meetings between 1977 and 1988, the number of poster sessions has risen from less than 10% to about 40% of total presentations. In 1992, they still made up about 40% of the presentations.

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.

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 eye-catching 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**

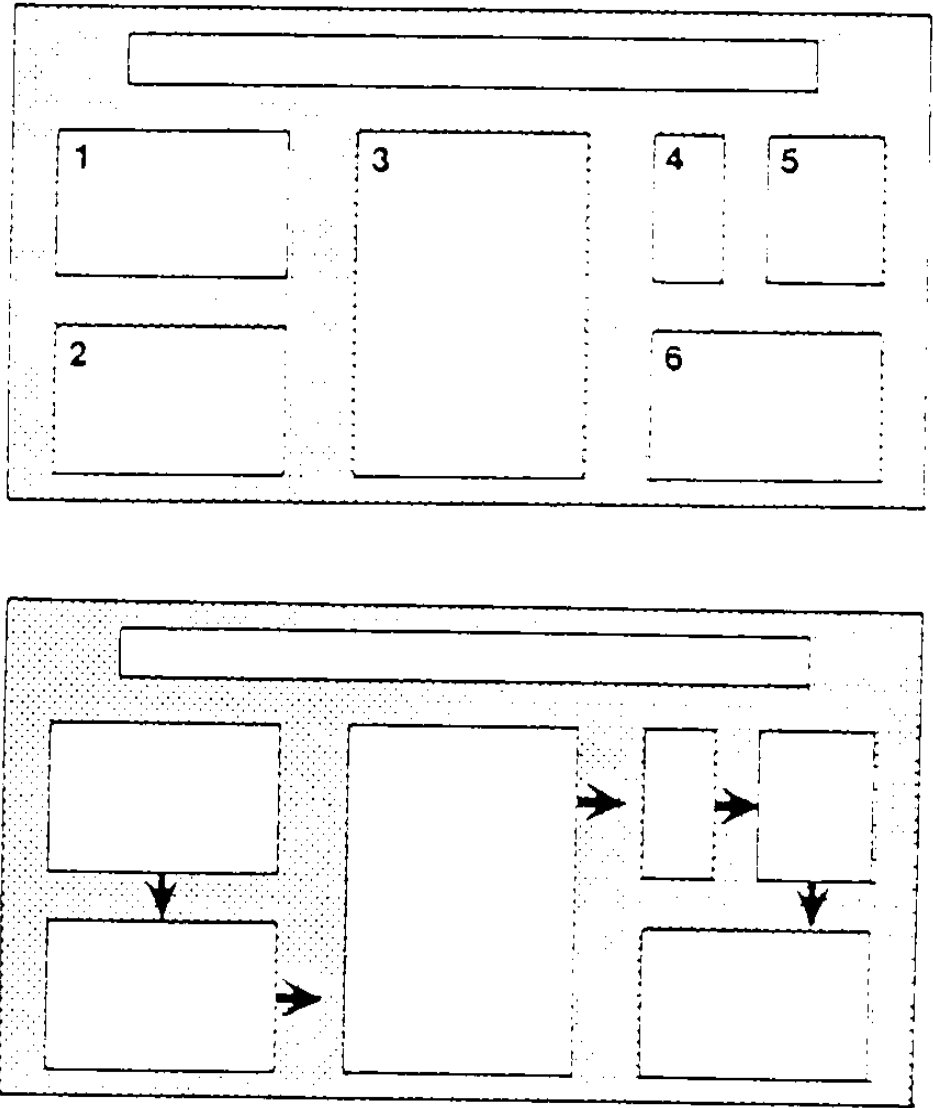
Obviously, the story to be told should be interesting and the research should be sound. However, the ideas need not be uncontroversial. Work that encompasses or might interest other disciplines, or has broad application and/or implications, is the type most likely to be accepted for inclusion in a poster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

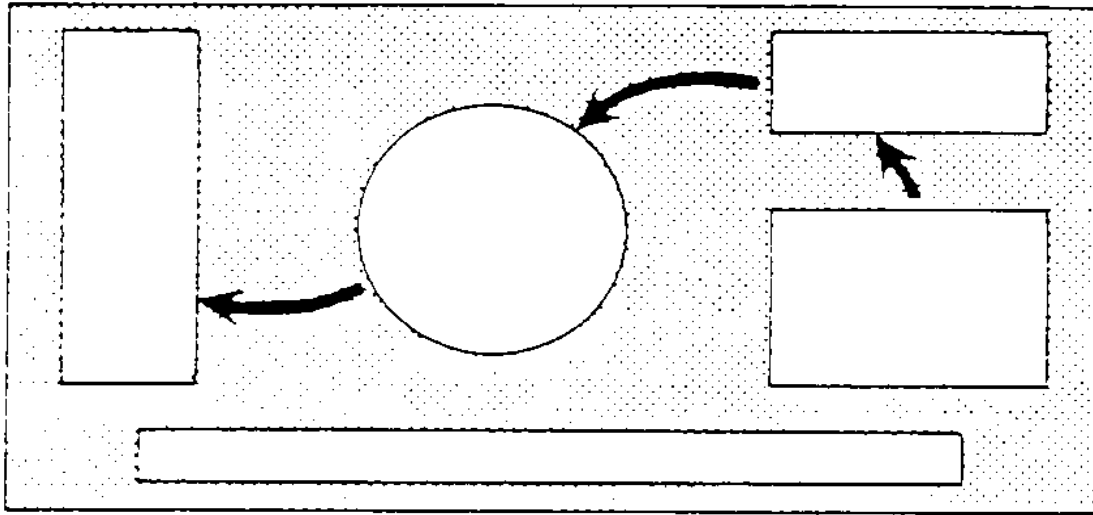
1. At first glance from 10-15 feet away the viewer should see an easy-to-read title and an uncluttered, neat arrangement of photos and/or illustrations and text. It should be obvious where to start inspecting the poster and where to go from there (generally left to right, top to bottom). As this progression 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 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 same-proportioned components result in a boring design. For areas of particular emphasis try different shapes to attract the viewer's attention. (Figure 2.)



**Figure 2. Attention-getting different shapes and lines.**

4. A large and/or bright center of interest can draw the eye to the most important aspect of the poster. Color poster prints, 12" x 18" or 20" x 30", can be ordered from photographic slides or negatives for a modest price at most photo shops.

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 samples 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.

All lettering should be legible from 5 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).

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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?

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**Figure 3. Examples of type size.**

The title lettering should be the largest, about 2"-3", with subheadings 1/2"-1" high. Office and art supply stores have a wide variety of stick-on and rub-on individual letters in various colors and sizes which are ideal for titles and subheadings. For material other than titles and subheadings, capitals and lowercase letters in combination are much easier to read than all capitals.

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#### **UPPER vs. lower case**

"MOST OF THE PRINTING MATERIAL FOR ORDINARY READING, AS IN NEWSPAPERS, MAGAZINES, AND BOOKS, IS IN LOWERCASE LETTERS EXCEPT FOR THE CAPITALIZATION OF A FEW WORDS SUCH AS PROPER NAMES AND THE INITIAL WORD IN THE SENTENCE. THIS IS FORTUNATE, FOR LOWERCASE LETTERS HAVE MORE 'CHARACTER' IN TERMS OF VARIATION IN SHAPE AND THE CONTRASTING OF ASCENDERS AND DESCENDERS WITH SHORT LETTERS. THIS LEADS TO CHARACTERISTIC WORD FORMS THAT ARE MUCH EASIER TO RECOGNIZE THAN WORDS IN ALL CAPITALS."

"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. This is fortunate, for lower-case printing is much more legible than all-capital printing. Lower case letters have more 'character' in terms of variation in shape and the contrasting of ascenders and descenders with short letters. This leads to characteristic word forms that are much easier to recognize than words in all capitals."

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

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

Text material can be typed at about 12 points, then enlarged on a copying machine to as large as 24 points without significant loss of clarity. 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.

in designated

radiation areas

proper...



designated

radiation

proper

**Figure 5. Typed text can be enlarged on a copying machine to approximately 24-point size.**

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, 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.

Color is as complex a subject as design, and it is not possible to give any set of 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.

"Reverse-color" photo prints make a striking poster. These prints have colors the reverse of those 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 or push pins on poster board or on 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 carryon dimensions (generally 17"x 22"; call the airline to be sure) to avoid the panic of lost luggage.

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 pushpins (get longer than standard ones if mounted illustrations are thicker than 1/8 ") or box of dressmakers' round-headed pins, ordinary thumb tacks, roll of double-stick tape, scissors, glue, 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 pushpins 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 can be attached with the pushpins (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.

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.**

### 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 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:

Connor, C.W., 1988, The poster session-a guide for preparation: U.S. Geological Survey Open-File Report 88-667, 12 p. The original version.

Connor, C.W., 1989, The poster session~a guide for preparation: GSA News and Information, v. 11, no. 7, p. 164-167. Boulder, Colo., The Geological Society of America. Slightly modified by GSA.

Connor, C.W., unattributed, 1991, Posters for scientific meetings, in Hansen, W.R., ed., *Suggestions to authors of the reports of the United States Geological Survey (7th edition)*: Washington, D.C., U.S. Government Printing Office, p. 242-245. Slightly modified by the editor.

Severson, R.C., Gough, L.P., McNeal, J.M., and Ropes, L.H., 1979, Poster sessions an alternative to formal presentations: *GSA News and Information*, v. 1, p. 17-18.

Singleton, Alan, 1984, Poster sessions. A guide to their use at meetings and conferences for presenters and organizers: *Elsevier International Bulletins*, 50 p. Has helpful information for poster-session organizers. Listed suppliers of equipment are all British.