Do's and Don'ts of Poster Presentation

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WORDS OF CAUTION

This guide offers advice on preparing a good scientific poster. As with all communication, which is an art form, there is no single recipe for success. There are many alternative. creative ways to display and convey scientific information pictorially. Occasionally, breaking with tradition can pay off, but not always. More often than not, an iconoclastic approach will revile and repel, rather than amaze and astound. Consider yourself forewarned. Unless you have some prior experience under your belt, or feel pretty certain of your ground, it's a better idea to leave experimentation to the laboratory and stick with tried-and-true methods for your poster presentations. The suggestions here certainly won't improve your science but, if followed, may help you to communicate your message. You should, before deliberately departing from these guidelines---and they are only that---at least attempt to understand the reasoning behind the advice. Remember that when it comes to posters, style, format, color, readability, attractiveness, and showmanship *all count*. Take the time to get things right.

POSTER LAYOUT AND FORMAT

DON'T make your poster up on just one or two large boards. These are a clumsy nuisance to lug around. They put large strains on poster pins and often fall down. They frequently don't fit well into the poster space you are provided. They don't lend themselves well to rearrangement. alignment, or last-minute modifications.

DO make up your poster in a large number of separate sections, *all of roughly comparable size*. The handiest method is to mount each standard-sized piece of paper individually on a colored board of its own of slightly larger dimensions, say, 9.5 x 12 inches, or thereabouts. This frames each poster segment with a nice border and makes for a versatile poster that can be put up anywhere, yet knocks down easily to fit into a briefcase or backpack for transport.

DON'T write an overlong title. Save it for your abstract. Titles that use excess jargon are a bore. Titles with colons in them are a bore. Titles that are too cute are even more of a bore.

DO keep your title short, snappy, and on target. The title needs to highlight your subject matter, but need not state all your conclusions, after all. Some good titles simply ask questions. Others answer them.

DON'T make the title type size too large or too small.

DO make your title large enough to be read easily from a considerable distance (say, 25-50 feet), so it will perforce span more than one printed page. Nevertheless, the title should never exceed the width of your poster area (particularly if you are sharing half a posterboard with a neighbor!), nor

should it ever occupy more than two lines. If things don't fit, *shorten the title*; don't reduce the typesize. And remember that titles in all capital letters are harder to read.

DON'T leave people wondering about who did this work.

DO put the names of all authors and institutional affiliations just below (or next to) your title. It's a nice touch to supply first names rather than initials. Don't use the same large type size as you did for the title; use something smaller and more discreet. This is not the cult of personality.

DON'T use too small a typesize for your poster. *This is the single most common error.* Never, ever, use 10- or 12-point type. Don't use it in your text, *anywhere.* Don't use it for captions. Don't use it for figure legends, and annotations, footnotes, subscripts, or anything else. Don't *ever* use small type on a poster. Remember, no one ever complained that someone's poster was too easy to read. Got it?! Good!

DO use a typesize that can be read easily at a distance of ~4 feet or better. You do want a large crowd to develop around your poster, don't you? Think of 14-point type as being suitable only for the fine print and work your way up, (never down) from there. For text, 20-point type is about right (18 point in a pinch). Not enough space to fit all your text? Then shorten your text!

DON'T pick a font that's a pain to read. Please, don't get too creative in your typeface selections: no one wants to struggle through a poster in **Linotext** or **Poster Bodoni** or *Tekton* or anything garish. Less obvious is the fact that sans-serif fonts, Helvetica being the most common offender, are more difficult to read, and certain letters are ambiguous (for example, the lowercase l and upper case I may look alike). Serifs help guide the eye along the line and have been shown in numerous studies to improve both readability and comprehension. Equally hard to read are most monospaced fonts such as `Courier`. Generally speaking, it's better to leave Helvetica to Cell Press, reserving its use in posters for short text items such as titles and graph labels, and `Courier` to your aging type-writer, reserving its use in posters for nucleotide sequence alignments and suchlike.

DO use a high-quality laser or inkjet printer to print your poster: no dot matrix printers, no typewriters, no handwriting. Select a highly legible font with serifs and a large x-height. The x-height of a typeface is a typographer's term for the relative height of the lower-case x compared with an uppercase letter, such as A, or a lowercase letter with ascenders, such as b. A large x-height makes for easy reading from a distance. Good ol' Times Roman and its look-alike clones represent the standard choice. But if you seek a different look, consider Baskerville, Century Schoolbook, Palatino, or anything else with proven legibility. Also, consider adjusting the kerning (the inter-letter spacing) for improved readability. This is particularly helpful when using large font sizes.

DON'T vary the type sizes and/or typefaces excessively throughout the poster. For example, don't use something different for every bit of text and graphics.

DO design your poster as if you were designing the layout for a magazine or newspaper. Select fonts and sizes that work together well. Strive for consistency, uniformity, and a clean, readable look.

DON'T make your reader jump all over the poster area to follow your presentation. Don't segregate your text, figures, and legends in separate areas.

DO lay out the poster segments in a logical order, so that reading proceeds in some kind of linear fashion from one segment to the next, moving sequentially in a raster pattern. The best way to set up this pattern is columnar format, so the reader proceeds *vertically first*, from top to bottom, then left to right. This has the advantage that several people can be all reading your poster at the same time, walking through it from left to right, without having to exchange places. Consider numbering your individual poster pieces (1, 2, 3,...) so that the reading sequence is obvious to all. And always make sure that all figure legends are located immediately adjacent to the relevant figures.

DON'T use gratuitous colors. Colors attract attention but can equally well detract from your message when misused. Fluorescent (neon) color borders just don't cut it for posters. Neither do excessive variations in color (the rainbow look). Forget paisley, tie-dye, stripes, polka dots, and batique. In your graphic items, use color with deliberation; avoid using it for its own sake, and avoid pseudocoloring when possible.

DO, by all means, use colors in your poster, and always try to use them in a way that helps to convey additional meaning. For color borders, select something that draws attention but doesn't overwhelm. For color artwork, make sure that the colors actually mean something and serve to make useful distinctions. If pseudocoloring is necessary, give thought to the color scale being used, making sure that it is tasteful, sensible, and above all, intuitive. Also. be mindful of color contrast when choosing colors; *never place isoluminous colors in close proximity* (dark red on navy blue, chartreuse on light gray, etc.), and remember that a lot of people out there happen to be red/green colorblind. Please remember this advice when you create color slides and transparencies as well.

POSTER CONTENT

DON'T write your poster as one long, meandering thread.

DO break your poster up into sections, much like a scientific article. Label all the sections with titles. Always start with an abstract, and write up this section so it can be easily read and digested, in contrast to the abstracts found in some scientific journals. Remember, you are not compelled to put it all down in 150 words or less. Make sure that your abstract contains a clear statement of your conclusions, so your reader will understand where you're headed, so to speak. Follow the abstract with other sections that describe the strategy, methods, and results (although you need not call these sections by those names). Display all your graphs, pictures, photos, illustrations, etc. in context. Write clear, short legends for every figure. Follow up with a Conclusions section. You may wish to add some kind of executive summary at the end; many successful posters provide a bulleted list of conclusions and/of questions answered or raised.

DON'T ever expect anyone to spend more than 3-5 min (tops!) at your poster. If you can't clearly convey your message pictorially in less time than this, chances are you haven't done the job properly.

DO get right to the heart of the matter, and remember the all-important KISS Principle: *Keep It Simple Stupid!* In clear, jargon-free terms. your poster must explain 1) the scientific problem in mind (*what's the question?*), 2) its significance (*why should we care?*), . 3) how your particular experiment addresses the problem (*what's your strategy?*), 4) the experiments performed (*what did you actually do?*), 5) the results obtained (*what did you actually find?*), 6) the conclusions *(what*

did you think it all means?), and, optionally, 7) caveats (*and reservations*) and/or 8) future prospects (*where do you go from here ?*). Be brief, and always stay on point.

DON'T write your poster just as if it were a scientific paper. It's not. DON'T waste lots of precious space on messy experimental details (skip a complete Materials and Methods section) or on irrelevant minutiae. Don't display every gel, every sequence, every genotype. Don't ever supply long tables; no one has the time or inclination to wade through these. And don't ever lift long sections of text directly from some manuscript and use these as a part of your poster. A poster is not a worked-over manuscript.

DO recall that a poster should be more telegraphic in style, and also far more accessible. Avoid jargon. Eschew obfuscation. Write plainly simply, briefly-never cryptically. A little informality can help but don't get too cute. Stress experimental strategy, key results, and your conclusions. DON'T get bogged down in little stuff. Convey the Big Picture.

DON'T leave prospective readers hanging, or assume they're all experts. They're not.

DO consider adding a helpful tutorial section to your poster. For example, consider one or more of these additions to the standard fare: 1) a brief, possibly annotated bibliography, 2) a short account describing some special apparatus or technique, 3) a synopsis of the historical background of a particular scientific problem, 4) a pictorial glossary describing some jargon terms (e.g., a definition of synthetic lethality with an illustration of alternative ways it can develop), 5) an Internet address pointing to relevant material, G) photographs of your set-up, or 7) anything else that would help teach your readers what they need to know to understand and appreciate your work. *Use graphics*. Many of the items above are what an editor would call a sidebar to the main story. Sidebars really help to communicate the message. Remember that you are the single best advocate of your own work.

DON'T leave out the acknowledgments.

DO remember that it never hurts to give credit where it's due. Write up a short acknowledgment section, including your sources of financial support and everyone who helped you to get this work done. No one was ever accused of being too generous here.

DON'T leave out the references

DO provide parties with routes into the literature and supply a context for your work. Poster references need not be as extensive as those in papers. If your poster work, or work closely related to it, has already been published, by all means display the citation(s). Footnotes are permissible, but keep them brief and avoid them entirely if at all possible. People hate having to jump around while reading, particularly posters. Another useful bit of supplementary information to provide is the address of an Internet web site (URL) where more information can be found.

POSTER PRESENTATION

DON'T leave everything until the last minute. Avoid resorting to handwritten text (no felt-tipped pens!) or using correction fluid. Don't hold everything together with tape. Be a pro.

DO start putting your poster together early. Get the title, acknowledgments, bibliography, and other standard items out or the way *first*, so you aren't stuck at the last minute with these particular details. Experiment with type fonts, sizes. colors, and all that stuff from the start, and begin to plan your layout. Buy your posterboard pushpins, etc. early. Pre-cut some posterboard pieces. Make up any graphics that you know in advance are destined for your poster. DO this soon, because you won't have the time later, and the color PostScript printer queue may be jammed with jobs from all of your colleagues. Buy a can or spray mount (artist's adhesive) so you can dry mount all of the poster segments. The best kind to get is the type that allows you to reposition the artwork without damaging it.

DON'T stand directly in front of your poster at the session, or get too close to it. Don't become so engrossed in conversation with any single individual that you (or they) accidentally prevent others from viewing your poster.

DO try to stay close by, but off to the side just a bit, so that passers-by can see things also so that you don't block the vision of people already gathered 'round.

DON'T be an eager beaver and badger the nice people who come to read your poster.

DO give them some space. Allow them to drink it all in. If they engage you with a question, then that is your opening to offer to take them through the poster or discuss matters of mutual scientific interest. Conversely, don't ignore people who look as though they may have questions, especially by becoming engrossed in talking to all your buddies.

DON'T pull a disappearing act.

DO stick around. It's your poster, your- work. Try to hang around for as long as you can to help and advise people. At the very least, give them a chance to associate a human trace with your work. If you need to circulate, try to get a co-author to spell you.

DON'T forget ancillary materials.

DO be a good scout, and come prepared to your poster, armed with reprints of any of your own relevant papers that you might have, plus extra copies of any material you may wish to share. Have ready some business cards, or slips of paper you can use to provide colleagues with your address (or fax number or e-mail address or whatever). Posters are a terrific way to get scientific suggestions and meet like-minded individuals. And don't forget to bring plenty of pushpins as well.

DON'T hesitate to provide supporting materials, if these can help. But don't overdo it.

DO consider using some kind of attention-getting gimmick, but beware that it doesn't backfire. Some posters employ a monitor on a cart and display videotape. Other interesting posters provide physical models or various kinds of three-dimensional display. Still others display actual data traces, computer-based simulations, or something else that makes them stand out from the crowd. Provided that your hook is legitimate, and that it doesn't detract from the science or trivialize it in some way, this sort of thing can be eye-catching and helpful. Use good judgment here.