Making and Presenting Scientific Posters

A Guide to Effective Poster Presentations

Prepared for ACLP
by the Oral Papers & Posters Subcommittee and Education Committee

Original version, September 2019
Making and Presenting Scientific Posters
Prepared by the Oral Papers & Posters Subcommittee and the Education Committee

• Paul Desan, MD
• Jennifer Erickson, DO
• Janna Gordon-Elliott, MD
• David Kasick, MD
• Walter Kilpatrick, DO
• Michael Marcangelo, MD
• Sahil Munjal, MD
• Julie Owen, MD

• Michael Peterson, MD
• Terry Rabinowitz, MD
• Kamalika Roy, MD
• Lisa Rosenthal, MD
• Dahlia Saad-Pendergrass, MD
• Sarah Slocum, MD
• Marie Tobin, MD
Overview

- How to make a scientific poster
- The Poster Pitch
How to make a scientific poster
How to Make a Scientific Poster: Introduction

- There are many ways to organize a scientific poster. Three variations will be presented here. While strong and effective posters can take different forms, they all have common features and they avoid common pitfalls.
How to Make a Scientific Poster: Introduction

- The ideal academic poster should be strong in **three areas**. It should be able to:
  - Maximize insight: the poster should disseminate the basic information (the "take home" point) without too much distraction or content that is overly time-consuming to read, interpret, and digest
  - Encourage selective engagement: offer opportunity for deep-dives into the material, based on the interest of the meeting-goer, and for stimulating conversations between poster presenters and meeting-goers
  - Be user-friendly for the poster presenter: the poster is not overly time-consuming to make; poster *facilitates* the presentation, without too many props or memorizing
How to Make a Scientific Poster: Introduction

Regardless of how you organize your poster, follow these key tips and principles that are true for all effective posters:

- Ensure you know the poster requirements for the conference! Size, template requirements, upload requirements, when to hang posters
- Do NOT try to write a paper on your poster
  - Visual flow is important
  - Use bullet points as much as possible
  - You, the poster presenter – not the poster, itself – should be the source of much of the detailed content. Be able to speak in an informed way about the material that is summarized and referred to, on the poster; the ideal poster has limited content that sparks additional questions from the reader, which the poster presenter can then address
  - If helpful, bring notes or supplemental material to help you fill in the gaps of what is not included on the poster; have a way to offer this additional information to your reader if requested (as print-outs, or a link to material, such as a QR code – see below)
- The text should be legible at a distance (this slide is an example of how NOT to use text!)
- Use images in place of text when possible
- Keep the background light and neutral
- Use white spaces strategically as place for eye to rest and to minimize a cluttered appearance; can use images for this, too
- Make sure you edit!
- Be at your poster during the session, dressed appropriately, and bring business cards if you have them
- Discuss choice of template with the rest of your team, including any mentors/supervisors before making a final decision (save yourself some time up front!)
How to Make a Scientific Poster: Format options

**Option 1: Standard Format**

- **Main sections:**
  - title, authors and institution(s)
  - introduction
  - methods (if relevant; for Case Reports, this section may instead include information about the Case)
  - results
  - discussion +/- conclusions (don’t waste space with a conclusions section if you are only repeating what you have already written – include if you have formulated a useful summary that adds meaningfully to the communication of the poster)
  - acknowledgements (if relevant)
  - references

How to Make a Scientific Poster: Option 1 (standard format)

- Example poster designed by Janna Gordon-Elliott, MD
How to Make a Scientific Poster:
Format options

Option 2: Alternative Format, using *progressive disclosure*

- **Minimalism is the strength!**
- One main, central section which summarizes the results of the poster. This should be *ideally one sentence, in plain language, and be in the biggest font*. A link via QR code* can provide a link to additional information if warranted.
- Side bar(s) on left and/or right displays title, authors, intro, methods, and results concisely.
- See article here: [https://www.npr.org/sections/health-shots/2019/06/11/729314248/to-save-the-science-poster-researchers-want-to-kill-it-and-start-over?fbclid=IwAR35y75vM_caQn5X24ubDEiZHICBApfMgnQLfqZd7pzBShRTzttoaRLusKTo](https://www.npr.org/sections/health-shots/2019/06/11/729314248/to-save-the-science-poster-researchers-want-to-kill-it-and-start-over?fbclid=IwAR35y75vM_caQn5X24ubDEiZHICBApfMgnQLfqZd7pzBShRTzttoaRLusKTo)
- This method prioritizes what people NEED TO KNOW. Figure this part out first, and include this in your large text box. This is your “take home” message.
- Include what is NICE TO KNOW after that – if it meaningfully supports your “take home” message (this could include a brief summary of data, an important graph, etc.).
- Include easy access to a deeper dive, such as a QR code that links to the paper you have written, or (if no paper) a summary you can write to go into more detail about your project or case.
How to Make a Scientific Poster: Option 2 (alternative format)

- Figure by Sarah Slocum, MD

- *There are various QR Code generators that can be found online. You can link to a cloud-based document through a URL, or to a PDF document. Many programs are free, but those programs that allow links to PDF documents may have subscription fees.
How to Make a Scientific Poster: Format options

Option 3: Hybrid Format

- While the poster example for the Alternative Format, above, is an extreme version, a reasonable option could be a template that involves the standard poster template on the left (i.e., background/significance, methods or case, results, discussion/conclusions, references), “take home” message and a QR code in the middle, and tables, figures and any additional data on the right.

- While some of the text and graphics may be small (thus, breaking the “principle” of being legible from a distance), the Alternative and Hybrid Formats allow for the attention of meeting-goers to be captured by your “take home” message as they walk by – in its big and bold central location; then, intrigued, they can come closer to look at the details and to ask you for more information, which you can provide.
How to Make a Scientific Poster: Option 3 (hybrid format)

- Figure designed by Mike Morrison, https://www.insidehighered.com/news/2019/06/24/theres-movement-better-scientific-posters-are-they-really-better

**Main finding** goes here, translated into **plain English**. **Emphasize** the important words.
The Poster Pitch
How to use this “how to” guide

- Principles apply to **two presentation formats**
  - the *in-person poster session pitch*
  - a *pre-recorded pitch* available for meeting-goers to review prior to the meeting (uploaded for CLP on the meeting Microsite)

- Where appropriate, information specific to one **presentation format or the other** will be described
Basics

- Duration
- Goals
- Components
Basics:
Duration, Goals, Components

- **Duration:**
  - The pitch should be short
  - You are taking someone’s attention from other things! How long can someone comfortably attend to you?

  - Bottom line: aim for 1 minute (or less)
Basics:
Duration, Goals, Components

- Goals:
  - Create a memorable and positive impression
  - Open the door to further conversation
  - For the pre-recorded pitch, convince the meeting-goer to come see your poster in person!
Basics:
Duration, Goals, Components

- Components:
  - Your hook
  - Introduction (yourself and your poster)
  - The set-up: the *what* and the *why*
  - Highlights: the *how* and the *what you found*
  - For the in-person pitch, a discussion with meeting-goer if relevant
Components:
Your hook, Introduction, Set-up, Highlights

- **Your hook**
  - Grabs the viewers attention
  - Start with one clear statement/ idea (as opposed to build up in presentations)
  - This is best distilled to **one or two sentences** that you use to get people’s attention and draw their interest
  - Could be a question or a statement that introduces the topic and its importance
Components:
Your hook, Introduction, Set-up, Highlights

- Introduction
  - Your name
  - Your position – i.e., resident/fellow/faculty/other
  - Program
  - Whom you worked with - faculty mentor/co-residents/medical students*
  - What was your role in the project*
  - Title of your poster

*Optional (may choose to omit to keep pitch brief)
Components:
Your hook, Introduction, Set-up, Highlights

- The Set-up
  - The *what*:
    - What is the central *question, issue, or problem* prompting your project or case presentation
  - The *why*:
    - Why your issue is important
    - How your project or case presentation fills a need or gap
    - In a nutshell: why did you bother making into a poster, traveling to a meeting, and taking up the time of your audience??
Components:
Your hook, Introduction, Set-up, Highlights

- Highlights
  - *How you did this or how did this happen*
    - For projects: *briefly*, describe the process or protocol
    - For case discussions: *briefly*, describe the subject, the important occurrence, and the outcome
  - *What*: take-home points
    - Most important, meaningful, or surprising *findings* and *conclusions*
      - What did you find?
      - Why do you think this happened?
      - How does this fit into the literature?
      - How does this contribute to what is known?
      - How should this contribute to practice and/or research in our field?
Keep it quick!

- Only say what is most important to say
- This brief introduction you’re giving is just the start
  - More detail can be found by diving deeper into the poster, or by going to additional resources you offer (e.g., your references, or any additional materials, such as a hand-out, or a link through a QR code)
  - For the in-person pitch, you can facilitate the meeting-goer’s deeper dive, based on interest, by pointing out select parts of your poster or by encouraging discussion and follow-up questions
  - For the pre-recorded pitch, the meeting-goer can think about questions or comments to discuss with you at the meeting
Conceptual approach to organizing your presentation and prioritizing content

<table>
<thead>
<tr>
<th>How it all began</th>
<th>Introduction</th>
<th>What prompted the work?</th>
<th>Who was involved?</th>
<th>What other work was being done at the time?</th>
<th>What is the relevance or need?</th>
</tr>
</thead>
<tbody>
<tr>
<td>What we did</td>
<td>Method</td>
<td>Methods</td>
<td>Process</td>
<td>Analysis</td>
<td>Rigor</td>
</tr>
<tr>
<td>What we found</td>
<td>Results</td>
<td>Key findings</td>
<td>Successes, surprises, and failures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>What it means</td>
<td>Discussion</td>
<td>Did you get the answer you needed?</td>
<td>What do the findings mean for your field?</td>
<td>Are the findings transferable?</td>
<td>What will you do next?</td>
</tr>
</tbody>
</table>

Presentation skills: what’s not on the poster

- For the **in-person pitch**
  - Stand in a way that doesn’t obstruct your poster
  - Be welcoming, with non-verbal communication that is appropriate to the context
  - Speak loudly enough to be heard over background noise
  - It’s ok to gesture toward relevant areas of your poster as you make your points

- For the **pre-recorded pitch**
  - Speak slowly and clearly enough to be understood
  - Consider writing a script or notes to follow
Practice makes perfect

- Try putting your 1 minute pitch in writing first to organize your thoughts
- Rehearse with peers/supervisors or in front of a mirror before delivering your in-person pitch, or before making your pre-recorded pitch
- If you rehearse with someone, ask for feedback about your content and presentation style
Keep the conversation going

- Questions and discussion (for the in-person pitch)
  - This is an important component of your presentation
  - Listen to the question or comment, ask for clarification if needed
  - Keep your response short, simple and concise
  - You may not have an answer to every question. Offer to send the meeting-goer an email once you have more information! (Remember to take down their email address!!!)

- Have an easy option for the meeting-goer to contact you later (e.g., email address or link on the poster for meeting-goer to write down or photograph, a business card, a hand-out, etc.)
An example
(case report poster)
Example: your hook

Hook:

Have you ever had a case where the patient’s decision-making capacity fluctuated and where inconsistent behaviors made it more difficult to assess the patient’s intentions or wishes? I will use a case of fluctuating capacity in the setting of psychosis to discuss some of the complicated ethical dilemmas involved.
Example: the introduction

- Hi, I’m _, a second-year resident at _ residency program
- I’ve worked under Dr. _ as my mentor who is the director of the consult service at _ hospital/program
- I worked with my co-resident/medical student on this poster*
- My poster title is “....”

*Optional (may choose to omit to keep pitch brief)
Example: the set-up

- What makes your poster important or noteworthy
  - *In C-L psychiatry, assessment of capacity to make medical decisions is a frequent request. The balancing of autonomy and beneficence can be especially complicated when the patient is experiencing psychotic symptoms.*

- How this presentation fills a need or gap
  - *I will use a case to illustrate some of the complicated ethical dilemmas faced in such situations*
  - *This discussion adds to a limited literature on this topic*
Example: the highlights

- What happened, how did this happen?
  - Summarize the case in just a few sentences
  - Essential information only

- Take-home points
  - Explain how this case specifically challenged our differentiation between stated versus demonstrated decision-making, and the balance between autonomy and beneficence
  - Offer useful suggestions for future practice (e.g., utilization of the Medical Ethics service, hospital administration, and Palliative Care service)
Now go make your posters and practice your pitches!