

## Creating an Effective Scientific Presentation

- As a general rule, make one slide for every 1.5 minutes of speaking time. This rule does not work for everyone; you will find your own pace after giving a few different talks.
- If you use a background graphic, pick something simple (not distracting) with reasonably consistent color. A solid color in the background will allow you to use the same font color(s) for the entire slide.
- Choose a simple color scheme and use it consistently throughout the talk.
- Consider the background knowledge of your audience. Every talk should include a couple introduction slides that emphasize concepts already understood by the majority of your audience. If you start with unfamiliar concepts, it will be more difficult to connect with your audience.
- Outline your talk. Consider the story that you want to tell and the background needed to do that. Decide which figures are necessary to tell your story.
- Figures should occupy the majority of the space on your slide, and font sizes should never be smaller than 18 point.
- Minimize the amount of text on each slide. Use just a few key words beside an illustrative figure or diagram.
- Be sure to define all symbols and acronyms, both on the slide and verbally.
- Use animation sparingly and only when it reinforces the material on that slide.
- Include a “comfort slide” after your title slide. This should be a slide that you are very comfortable explaining. In many cases, it will be a general introduction slide. If you are nervous, this slide will help you to orient yourself in front of the audience.
- If giving a short talk or poster presentation, don’t plan to spend a long time giving the outline of your talk. If possible, skip the outline slide altogether when speaking for 20 minutes or less. In this case, just verbally tell your audience about the general structure of your talk while your title slide is up.
- Always include a “big picture”/motivation slide. Answer the questions, “Why is this work important? Why will this audience care about my work? What are the long term ramifications of this research?” Think big.

- If you are discussing multiple topics or projects within a single presentation, make clear distinctions during the transition. Consider giving conclusions after each individual topic. If possible, explain the connection between various topics or projects.
- While it is sometimes important to discuss failed experiments, do not focus your talk on these areas. Do not just chronologically present every experiment that you've done with each failing until had your first success. Choose the failed experiments that reveal necessary information for the story that you've decided to tell.
- Include a conclusions slide to emphasize the “take home” messages from your talk.
- Always include an acknowledgements slide. Everyone knows that nobody works alone; give credit to your mentors, colleagues, and financial support.

### Delivering an Effective Scientific Presentation (Oral)

- Practice your talk ahead of time. Make sure that you're comfortable explaining each slide and that you know the order of the slides in your talk. If possible, practice in front of an audience. Have them ask you questions at the end as practice.
- Ask your practice audience if you have any speaking habits that detract from your presentation. Many people have a word that they overuse (e.g. essentially or exactly) or a spacer word (e.g. um or well) that does not add to the content the talk. Other people have physical habits (e.g. jingling coins in your pocket or playing with your hair) that take the audience's attention away from your presentation. After you identify these habits, try to correct these behaviors.
- If you're nervous before giving your talk, try to take a moment in a quiet place. Take a few deep breaths and think about what a great opportunity you have to present your work to an interested audience.
- Try to think of your talk as a conversation that you are having with the audience. Structure your sentences as you would in a normal scientific conversation.
- Do not read your slides to the audience. Hopefully, you don't have paragraphs, or even complete sentences, of text on your slides, but if you do, you should assume that your audience is capable of reading. Your verbal comments should supplement the information on your slide.

- Use your laser pointer conservatively. Point simply at objects and hold the laser point in place while discussing relevant information. If your hands are shaking, hold the laser pointer with both hands to steady it.
- If you make a mistake, or if a slide has an error, don't apologize to your audience. Just clarify the point and move on.
- Face the audience throughout the presentation. If you are comfortable, make eye contact with various audience members. If you're not comfortable making eye contact, just look slightly over the heads of the audience members while speaking.
- Pay attention to your allotted speaking time. People in the audience know how long your talk should be, and they pay less attention once you have passed your allotted time. By speaking for too long, you are also likely to disturb the speaking schedule. Inexperienced speakers often finish their presentations too quickly. Prepare a couple slides that you can add on to the end of your talk (before your acknowledgments) in case you are delivering your presentation faster than you expected.
- Concentrate on speaking loudly, slowly, and clearly. If you wear a lapel microphone while delivering your talk, put it on the side of your lapel to which you are naturally likely to turn so that you are not turning away from the microphone.
- Sometimes, nervous presenters speak in monotone. Concentrate on using voice inflection that is normal for conversation. This will make your talk easier to follow.
- Liberally acknowledge people who have helped with the presented work as the relevant work is discussed in your talk. For example, "In order to achieve this result, we made use of John Roberts' expertise in organic synthesis and our expertise in surface spectroscopy."

### Delivering an Effective Scientific Presentation (Poster)

Many of the suggestions for delivering an effective oral presentation also apply while delivering a poster presentation. Here are a few additional thoughts:

- When someone approaches your poster, give them a moment to look it over and then offer to explain anything of interest. Sometimes, people prefer to look at your poster without any narration.
- If a viewer asks you to present your full poster, begin by asking the person's area of expertise. Use this information to determine if you should give additional background or skip slides that might be unnecessary for that particular viewer.

- Bring copies of a recent manuscript to distribute to interested people. If you have business cards, this is a perfect time to use them.
- If another person from your research group is also presenting a poster or a talk, tell viewers where and when they can find that poster/talk if they are interested.
- Stand by your poster while you are waiting for people to arrive. If you sit, people will assume that you are not interested in explaining your work.

Source: [http://www.chem.umn.edu/groups/haynes/Effective Scientific Presentation.pdf](http://www.chem.umn.edu/groups/haynes/Effective_Scientific_Presentation.pdf)