

# Conference Presentations

and

## Telescope Time Proposals

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### Conference presentations

#### Oral presentations

One of the most important parts of an oral presentation is to be aware of how long you have to talk, both during the preparation and especially during the presentation. Normally, oral presentations suffer from going over rather than under time. One danger of this is that you run the risk of not having enough time to make the main point of your talk before being dragged off the stage. The other concern is that your presentation may look rushed and poorly planned when you get a signal that you only have a few minutes remaining and you need to rush through ten slides to the end. Unfortunately, if your talk seems poorly planned and/or rushed the audience, if it remembers anything from your talk, it will be that it was poorly planned and/or rushed. They will most likely NOT recall the science message you were trying to get across. So it is important to practice the timing of your talk. Practice, practice and more practice.

You should be aware that an audience loses and regains attention a number of times during any oral presentation. If your presentation is at a conference, with many talks both before and after, wandering minds can become even more problematic. There are many ways to make your talk stand out to the audience, but also many pitfalls which will reduce the clarity of your message. An obvious choice for drawing the audience's attention is a joke (oral or pictorial). These can work, but can also flop if you're nervous or unsure about telling a joke in front of an audience. A rule of thumb is that if you don't feel comfortable presenting a joke in front of a few friends then it won't work in front of a larger audience. Of course jokes are only ever going to be a small part of any talk – they should be used as occasional props, not staples.

You are much more likely to keep the audience's attention by telling them a good story about your research in an engaging manner.

A few ideas that can help engage the audience:

- Speak loudly and clearly so that no one is straining to hear your voice;
- Make occasional eye contact with the audience;
- Avoid pauses where you forget what to say, but at the same time, the clever use of pauses can be used to make the audience think about a salient point you have just made. The important thing is to make it look like you meant to have a pause.

A large part of any talk is the slideshow presentation. This could be PowerPoint, Keynote or another presentation program. It should be remembered that, apart from the presentation of images/equations (i.e. material that is difficult to communicate without a slide), a slide presentation is only a prop for your talk. It is something you use to help the audience follow along with your talk.

To use it this way, do not have exactly the same words written on your slides as you are reading out to an audience. This is because the average person can read much faster than you can speak. They will read what you have written before you're half way through speaking the words, then they will get bored and you will lose their attention.

It is a good idea, however, to have an abbreviated form of talk presented on the screen. For example, you may show just a subject title on your screen (e.g. "High vs. Low Mass Star Formation"), and then you talk around the subject ("High mass stars probably don't form in the same way as low mass stars, blah blah blah..."). This gives the audience a chance to start thinking about your subject and what they know about it before you start talking about it and (hopefully) tell them something they have not heard before.

It is a good idea to use colours/fonts/images in a creative way to make the screen presentation more visually appealing, but don't forget that the main message is the astronomy and anything that distracts from your main message is not helping you. So in this context, "visually appealing" means it makes the audience think momentarily "I like the look of that", but not that the audience dwells on "How did they create that effect?" or "Why did they choose those colours?"

The complexity of any one slide is an important balance to strike. Don't have as much text as fits on a standard A4 page on a single slide. Don't even have a quarter of that, unless you're trying to make a joke about how much work you've done but the audience doesn't need to know the details. Also, don't go to the other extreme of not having enough information on a slide to keep it presented for less than 5-10 seconds. The audience will struggle to keep up because half of them were not looking for the 5-10 seconds the slide was visible.

With figures, it is important that they are clear when presented to an audience. All too often the first words you hear from a speaker when a figure is presented is "Sorry this didn't come out well on the screen, but it looks lovely on my laptop." Things to watch out for here are colours that are too close together to distinguish (e.g. red or blue on black, or green on white) and fine detail that may not be represented well by a lower resolution projector, or seen by the audience at the back. Fine detail includes captions and axes labels, but can also be lines/curves that are too thin to see, or difficult to discern differences between dot-dot-dash lines and dash-dot-dash lines.

Audiences generally love animations, since they give life to an otherwise 2-D presentation. However, there are problems with smooth running of animations that you need to check before your presentation. A common problem with an animation is that it is not copied over with the main presentation and consequentially does not play. It is also possible that the number crunching requirements for smooth display of an animation may not be met by the presentation computer, so it is always a good idea to check that your animations in your presentation work well before the main event.

A very important rule of an oral presentation is that you must remember exactly what you want to communicate to your audience. There are usually one or two messages that you want to get across. You should think about the entire content of your talk and strip out anything that is not essential to your message(s). It may be important for you to describe the method you used to come to your message, since the validity of your message may depend on that method. But there is no need to tell the audience that you spent an inordinate amount of time on the observations due to bad weather, for example. Keep it focussed on the message.

Be sure to check the requirements for the conference or seminar you intend to give your talk. Do they require your presentation in advance in a particular format? Most times, you will be required to

provide your talk in advance on a USB stick or by upload before hand. Be careful if you have to send it as a PDF file, as these will usually lose your animations and movies.

Finally, check the facilities in the venue *before* your session. Where will your slideshow be – on the venue computer desktop or your laptop? Give it a run-through before the session to make sure it works on the venue computer (especially animations or movies) – or your laptop works with the venue projection system. How do you advance (and go back) on your slides? Is there a laser pointer provided? If so, how do you turn it on? How does the microphone work? Can you control the lights?

### **Poster presentations**

Poster presentations present a unique challenge. Your options are limited by the format of a poster, which dictates that the poster must be visually appealing to catch the attention of a passer by.

You are unlikely to get people reading your poster if you just present the pages of a paper in your poster space, for example. In order for your poster to be a success, you need to find a balance between the information you present and the ease of reading the poster. If you have too little information, you run the risk of the reader not remembering anything other than your poster was “pretty”. If you have too much information, then you run the risk of the reader getting bored and not reading it to the end.

You should plan the look of your poster by imagining a person coming to look at it and asking yourself what would pique their interest. Initially this means that from a distance the poster should stand out. To make a poster stand out, a central image is a good focus point, as well as a catchy title, but you can also use a background theme image or simply an appealing layout of various parts of your poster.

Beyond this, you need to keep the attention of the reader by giving digestible portions of text/figures/tables that convey your message in simple terms. One of the best things you can do with a poster is to stand next to it when people are looking at it. This way, you can have very simple text that can act as a starting point for a conversation. This then gives you the opportunity to explain in detail about your work, using the poster as a prompt. It is useful to include a picture of yourself on the poster somewhere. Inevitably there will be someone who is interested in your poster, but has not met you. If they know what you look like, they are more likely to talk to you about it. If they only know your name, they are less likely to wander round, scrutinising name badges to find you.

## **Telescope Time Proposals**

Writing a telescope proposal is an essential skill that is usually only gained through bitter experience. There are many pitfalls of writing a proposal. These can result in no time for you or your project. No time for your project means no data, no data means no papers.

You should be able to avoid most pitfalls if you try to address the following questions in your proposal:

- What is the scientific question you are trying to answer?
- What is the significance of this particular project to the bigger picture of astronomy in your field? It is always nice to collect pretty images from space, but if it doesn't lead to a greater understanding of some aspect, then you are likely to receive the “this is just stamp collecting” comment and get no time on the telescope.

- Can the science question be answered with the proposed observations?
- What is new and unique about these observations, compared to previous work? i.e. How will knowledge in your field be advanced by your proposed observations?
- Have you shown that the sensitivity you will achieve is enough to answer your science question? Ideally you should say that your sensitivity is a discriminating factor between two possibilities. i.e. if you do detect something, it is an important result, but if you don't it is also important.
- If your science goal involves observing multiple targets, have you justified the number of targets? Particularly if you are doing a statistical analysis, how many targets do you need to find a statistically robust result? If you are proposing to observe 100 targets, can your science question be answered with only 50 targets? If not, then you need to explain why.
- Have you justified why this telescope is your best choice for the observations? Be aware that you need to convince the TAC that their telescope and instrument is your best option. They will need to believe that you can't do the observations on another usually smaller telescope.
- Can the observations be performed with the telescope? This includes frequency/wavelength coverage of the instruments, the available setup of the telescope during the proposed observing period, the sensitivity, weather conditions, interference etc.
- Have you provided sufficient detail on technical aspects of your observations to show that you know enough about the telescope and instruments to be able to conduct your observations competently? Always check your information in this area. It is important to be accurate and sure that the observations you want can be done at the time you ask and with the setup etc that you have asked for.
- Have you conformed to the rules for proposal submission? Accurately filled out all the required fields? Margins and font size conform? Not over the word/page limit?

With any proposal, it is always important to remember that whoever is reading your proposal almost certainly has to read many more at the same time. It is a rather laborious task for the reviewer, so avoid making your proposal difficult to read.

- Use as large a font size as will fit in the guidelines.
- Use spaces between paragraphs to help break up the text.
- Don't write overly long paragraphs.
- Use figures and/or tables to illustrate your case and break up the text.
- Make sure your figures and tables are legible.
- But most of all, don't try and cram as much information as you possibly can on the pages.
- Make your case in as simple terms as will convey your message.
- Just because you can take 2 pages, you don't need to – if you can explain your science justification in less than do so.

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