

How to give a scientific presentation
UCD-Condensed Matter Journal Club
April 5, 2006

Giving a talk

- To tell a story, and also present yourself;
- Must do a good job worthy of everyone's time!
- Know your audience: adjust necessary introduction & level of technical details

Topic selection

- Recent journal article on a topic of interest to the audience, preferably within a year, but no more than 3 years old;
- May cover additional and perhaps older papers for supplementary information;
- Do your homework to make sure you understand it, at least the parts you plan to present.

Coherence and continuity

- Create an outline before putting the slides together to ensure coherence;
- Show the motivation, the approach, results, the physical picture, and conclusions; add acknowledgement to funding support or technical help as appropriate;
- Make sure the take-home message is not lost, even if some details are;
- Provide a good continuity from slide to slide, guide the audience through your story, and refer back to the outline when necessary.

Slide preparation

- Limit the amount of text and avoid reading sentences from slides; this is an oral presentation, not a paper;
- Bullet points no need to be complete sentences;
- Never over-crowd each slide;
- Make sure all images and text are large enough to be clearly seen from a distance;
- Clearly label any plots: axes, units, legends, conditions, etc;
- If using published results, even your own, include references at the bottom of the slide or near the image;
- Avoid hard-to-see-colors (light green, yellow, pink etc); dark backgrounds can often minimize this problem;
- Make sure you thoroughly understand the results you are presenting; be prepared to answer questions about everything you show in the talk, and get back on track after the question;
- Leave out things you are unsure but non-essential or too technical; could save those for discussions / potential questions at the end;
- If you have to address something important yet you are unsure of, acknowledge the gap in your understanding rather than being pressed to admit; it may very well be an open question;
- A picture is worth a thousand words; a movie is worth ... live demonstration is always a plus;

- Proper use of spices (animation, color, humor...) adds flavor, but don't overdo it; the audience ought to remember you for the substance, not just the packaging.

Delivering

- Be enthusiastic and energetic to carry the message through and keep the audience awake;
- Overcome any psychological barrier speaking in public, practice and practice more;
- Even if you aren't actually confident speaking in front of an audience, fake it. Never show weakness! Don't make excuses for a lack of preparation or knowledge;
- Control the pace of your talk, don't let non-essential questions stop you for too long;
- Pay attention to body movement (distractions):
 - Face the audience you are talking to and not always at the screen; your back is not going to get you a job.
 - Stand up straight and don't pace;
 - Hand gestures are ok as long as they pertain to what you are saying;
 - Keep hands out of pockets, and don't cross feet, these are clear signs of nervousness.
 - If using a laser pointer, use it in a controlled fashion. For example, point out something on the slide by using a slow, circular motion around it, not a frantic jittery scribble; if it's shaking in one hand, use both hands.
- Avoid using vocal fillers such as: like, um, er, etc. Silence is better and can actually help the pace of your presentation, use it to your advantage by taking purposeful pauses to emphasize points or transitions. Changing the tone of your voice has similar effects;
- Speak loudly, clearly, and not too quickly. You will automatically sound more confident and more prepared. There's no point in giving a presentation if the audience can't even understand or hear what you are saying;
- Interact with the audience if possible, but never insult them; they need to be "shaken, not stirred".

Miscellaneous

- Make sure the computer is compatible with the projector (resolution setting, operating system – particularly Linux, fonts);
- Fresh up before the talk and keep some water by your side for a long talk;