
GUIDELINES FOR SEMINARS

The departmental seminars provide a valuable opportunity to increase your skill in presenting scientific work to an audience. Many students when first attending a conference will notice how this skill is sometimes sorely lacking. When work which may be important and exciting is presented in a boring, confusing or inept manner, the audience is turned off and the impact of the scientific message is lost. The seminar program helps all of us develop the ability to give first-rate talks. The student presentations have been setting a standard often not matched by faculty presentations.

In addition to the student who is presenting the talk, another student will chair the presentation. The chair will introduce the speaker and conduct the question period, making sure that the seminar stays on schedule. Also, a student serves, on a rotational basis, on the seminar review panel, an additional learning experience for everyone.

Guidelines may be the wrong word for this document. It attempts to lay out and discuss a number of practices that people have found by experience to assist communication between speaker and audience.

Successful communication requires both discipline and innovation. The most specific of the suggestions here provide a basis for the discipline component.

COMPONENTS OF A GOOD SEMINAR

Opening

While the room lighting is still on, the speaker thanks the chair, and greets the audience, thereby taking over control of the meeting. Face the audience and in a few rehearsed sentences state the core of what you will present.

Just as you thought carefully of the audience when preparing for the presentation to come, now look at them, and begin to tell them what you want to share.

Introduction

You may now turn down the lights and employ slides while for two or three minutes you explain the nature of the problem that you are interested in and its importance. Since you are probably not the first person to do work in this field, reference to other scientists whose work you are trying to verify, refute, or build upon is in order and will set the stage for your own contribution.

This is a good point at which to acknowledge your supervisor and co-workers. (Making the acknowledgements just at the end interferes with your take-home message.)

Outline

At the end of the introduction, it is useful to offer the audience a "road map", i.e., a list of what is to be covered in the seminar. Use topic names; the general list—introduction, methods, results, conclusions—is no use and shows a lack of imagination. By letting them know what to expect you whet your listeners' appetite and help them to follow the talk. The talk, for example, may focus mainly on instrumentation, with a sampling of results later on. A presentation on such a theme would be very different from one that has mainly important new results.

Major Issues & Critical Questions

All too often speakers mistakenly assume that the audience is tuned in to major issues such as a raging controversy, a critical need for a better

definition, or a key hypothesis that needs to be challenged. Telling your audience of any such issue is important. You could do so in the introduction, or in the body of the talk.

Content

Remember that the Medical Biophysics Department is a group of scientists with wide interests, but who in fact specialize in a variety of disciplines. While at some point in your talk you are bound to leave some people behind, you can minimize this by presenting the principles of your approach to the problem before the details. Defining terms with which part of your audience may not be familiar is wise. *Avoid jargon.* You don't want to "snow" the audience with tons of data in an attempt to impress it with how much work you have done. The Discussion should bring the audience back to the goals set out in the Introduction.

Conclusion

Having shared your assessment of the validity of your results to date, discuss them and establish the conclusions you draw. As part of this discussion you will probably indicate unanswered questions and further work. To close your presentation summarize these conclusions, and list still unanswered questions and items for future work on one or two concise slides. (There is ordinarily no need to summarize the research activity.)

Let the audience know when your talk is to finish by turning up the lights; and in a few well rehearsed statements offer them what you consider to be the take-home message from the work. It is important to point out how far you have advanced the key topics set out in the introduction; the perspective the audience thus gains is much appreciated.

Question Period

After your talk there will be a question period. The chair will again take control and invite questions from members of the audience. The questions may relate to particulars of your talk, or they may go beyond it. Answer them **briefly** and to the best of your knowledge, stating when you are venturing an opinion. There will often be questions to which you do not have the answer or to which there is no answer. When

these come up you will do best by being honest and careful in your response. Do not be afraid to admit ignorance; it lends more credibility to answers you do have.

Some questions may be surprisingly simple. Treat them at face value as the listener may not be familiar with your area of endeavour.

Repeat for the audience a question that is hard to hear, or awkwardly worded. By rephrasing it in your own words you ensure that you understood it, for the questioner has the chance to correct you. This is excellent technique, much appreciated by the audience, and is usually essential when the audience or the room is very large.

You *must* keep your answers brief. Try not to be drawn into an almost personal discussion with one person; the chair should help you here.

The discussion period is not a time to add a new section left out of the main talk.

Comments on Technique

Use of Audio-Visual Materials

Legibility is of paramount importance. It is affected by the size of the image in relation to the dimensions of the room. Any visual medium may be used, but if you wish to show a video, you must make special arrangements and may need to have several monitors. Try not to go back and forth repeatedly between different projection media because it slows down the talk and distracts the audience. Plan to minimize the number of changes (say, to 2 or 3).

A slide made from ordinary typing, on about one-third of a page will usually turn out well. Spread out the typing—for example, use 12-pitch characters with 10-pitch spacing. Some laser printers make lettering rather crowded. Experiment with different fonts. Lines written fully in capitals are surprisingly hard to read. A slide you can read with the naked eye at normal reading distance is absolutely safe.

Label axes on all graphs. Don't try to crowd too much information on a table or graph, for it will confuse the viewer and the point will be lost. If the scale on an axis is broken, make this obvious. Slides made for papers are too

detailed and cannot be read. Relabelling the axes by hand often makes them useable.

The tried and proven 'colors' for slides are white on blue and black on white. Multi-colored slides can be effective if done carefully. If you choose color, use it to show meaning and not for decoration. Remember that a fair proportion of males are color-blind (c. 5%).

Timing

Practice your talk with fellow students, including slide changes, use of the board etc. and get the timing right. If possible practice in the actual room in which the seminar is to be given, using projectors, microphones etc. At the least, practice standing up, even if other simulations are not possible.

Planning your Talk

If the first thing anyone thinks of is, what shall I talk about, the next thing ought to be, but often is not, who will make up my audience? Your presentation will be a failure, or simply an ego trip, if you do not leave in the minds of your audience the core of your message, including the reasons for undertaking your work, the general principles of your approach and some of the main details.

Your audience are intelligent people from different but related disciplines, with a fairly common attitude toward investigation, but quite varied technical knowledge. We suggest speakers aim at the level of the magazine *Scientific American*, scholarly, with explanation, and avoid a *Reader's Digest* or newspaper level.

With your audience constantly in mind devise a strategy for enabling them to grasp what you wish to convey. The why, the necessary background, the general idea, the essential details, how good are the results? what does it seem to mean?

Devising a strategy and trying it out means experimenting. Not all experiments are wholly successful, but only by experimenting can you succeed gloriously. If you want feedback on a particular experiment, why not alert one or two listeners beforehand?

Style of Presentation

Your objective should be to present a smoothly flowing seminar without going to the extreme of sounding like a "used car salesman". You should attempt to give the talk in the more formal style that you would use at a conference rather than the one you would use for a group meeting.

Learn your talk so that you don't have to read it. A helpful technique is to use a card with a list of slides, a brief outline or the slides themselves to guide you through the talk. Associate a set of ideas with each illustration and they will come to mind as it is projected on the screen.

You will appear much better prepared if you can lead into the next slide. You've all seen speakers say "next slide please", then pause while they wonder why that particular slide came up next. Surprises are for the audience not the speaker.

Decide on the kind of pointer you will use, and practice with it. Light pointers are quite difficult to use well, especially the little red-spot ones. Practise to find out how to be effective. Be very deliberate in using any pointer. A quick sweep of one quadrant of the slide is usually far too rapid to follow.

In your practice sessions get a friend to describe any distracting mannerisms you may have, so that you can consciously attempt to avoid them. Some classic examples are the jingling of keys in pockets and random gesticulations with the pointer, as well as "ums", "uhs", etc. Don't put your hands in your pockets. Don't get glued to the podium.

Show enthusiasm for your work. It is infectious.

Speak loudly and clearly, as if to a person at the very back of the room. (A podium microphone is available in Auditorium A.) Keep up the intensity of your voice right to the end of each sentence. Try to introduce some variation of

pitch as you speak, because this makes listening more interesting, and gives you a tool for emphasizing. Use pauses and voice inflection to introduce punctuation.

Do use body and hand movement but make it deliberate and supportive, standing where you can be clearly seen.

Remember, there is no one way to present. As you internalize the discipline imposed by the 'institution' of speaking to an audience, you gain freedom in the way to present. As you continue to experiment, and learn from the experience, you will be forming your own style.

Evaluation

The basis for evaluating seminars will be effectiveness of communication to the audience, the appropriateness of the level, and the quality of the science.

Your talk will be evaluated by the evaluation committee for that day

who will afterwards give you written comments and constructive criticism to help you improve. A copy of the evaluation is kept in your departmental file. It often proves helpful when someone is writing a letter of reference.

The letter grade is a summary quality indicator. AG means low professional standard, while B⁺ means almost professional standard.

The high quality of the current seminars and the prizes won for presenting by graduate students in Medical Biophysics testifies to the worth of this seminar program.

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