Research Methodology
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Lecture - 63
Presentation in Scientific Conferences, Part 01

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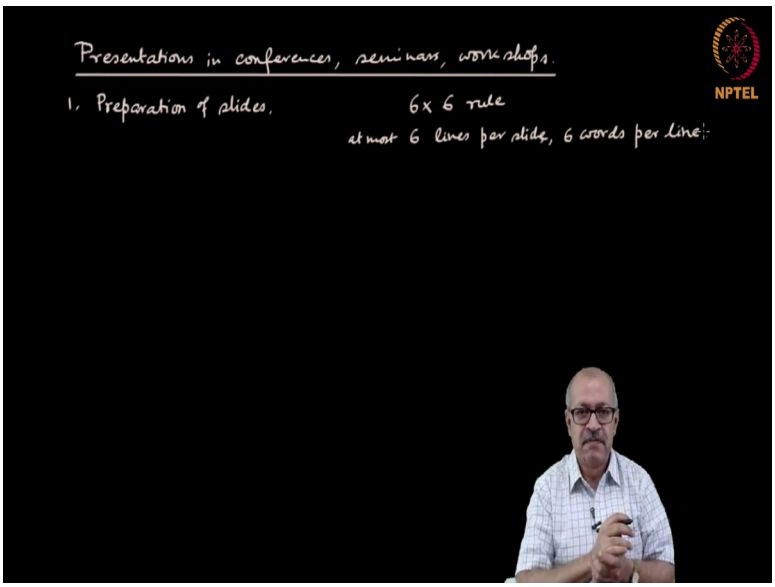

Today we will talk about presentations in scientific conferences, seminars, and workshops. As I said earlier, there are two major means of dissemination of the information you have generated through your own research: one is publication in peer reviewed journals and the second is presentations in conferences.

Out of that, normally the presentations in conferences do not rate at the same level as publications in peer reviewed journals. The reason being that, barring a few very prestigious conferences, in most conferences there is either no review system or if there is, it is not as rigorous as in most scientific journals.

That is why, if you have a paper in a conference, whenever you apply for a faculty position or you are nominated for an award, these are not rated at the same level as publications in peer reviewed journals.

But still we do present papers in conferences. Why? There are certain advantages of presentation in conferences because that offers a way of directly interacting with our

peers. ‘Peers’ means those who are working in either the same or similar research areas. Directly interacting, exchanging ideas and networking with people, starting collaborative work.

Ideas, when exchanged, you might come into a conclusion that he is strong at something, I am strong at something else. So, if we put our strengths together, then we can make a very good work and thus we start collaborations. Most collaborations start when we interact with other people across the globe in conferences.

So, these are mainly the advantages of participating in conferences. So, when we talk about conferences, we have to keep that aspect in mind: that the idea is essentially to get your message across.

In a journal, whether or not somebody will read it depends on whether or not that person chances upon your publication when he is searching for appropriate information. While in a conference, the people of that area might be present in that audience and therefore, you have a direct reach to those people.

Normally, when you have something for presentation in a conference, most conferences expect you to submit only an abstract or in some cases a relatively longer ‘extended abstract’. An abstract for a conference is within a page and extended abstract might be a couple of pages or 4-5 pages.

The abstract is printed in the conference brochure. The idea is that, when somebody goes to attend the conference, then they will have a clear idea as to which talks to attend. So, the idea of an abstract is essentially that.

Very rarely these are peer reviewed, except for the area of computer science where conferences are the major way of dissemination of information. Conferences are instantaneous. The moment you present it, the others get to know your work, while there is a long period of processing in case of journals. And so, computer scientists normally prefer conferences and their conferences are generally very strongly peer reviewed. But for other areas, it is not quite so.

Some conferences require you to submit a full paper. When you submit a full paper that will ultimately go into the conference proceedings. Sometimes they initially take

abstracts and then ask people to submit full papers which go into the conference proceedings. Nowadays proceedings are no longer printed. They are given either in a USB stick or simply remain available in the conference website for anybody to search and download.

But remember: Whenever such a paper is published, it is at par with any publication and if something is published, you cannot publish the same thing again. So, when you are submitting a full paper to a conference and they put it up on their website, or it is some kind of a conference proceedings that is published, then you cannot send exactly the same material to a journal. There has to be additional material to it, there has to be additional inputs to that and things have to be rewritten.

It is true that many of us go to conferences when a piece of work is not mature enough. And at that stage we sound the idea around to get feedback, and then incorporate those feedbacks, maybe improve the work, maybe perform a couple of more experiments depending on the feedback we have received, and then make it a complete piece of work to submit to a journal.

In that case there is additional input that went before we submitted to a journal. And things have to be rewritten. The same language cannot be used because then it will be caught by any plagiarism check software. So, there has to be significantly new material whenever you submit to a journal.

Now let us come to the art of presentation. Now, the presentation normally happens in two forms. There are two types of presentations in a conference: either it is oral presentation or a poster presentation. I will come to both.

If it is a oral presentation, barring only the field of pure mathematics where still people write on the board, chalk and talk presentation, in all other fields presentations are normally in form of some projection. That means, you prepare your projection material either as a PPT file or as a PDF file, whatever. Ultimately you project and give the talk.

There are two aspects of it. One, how to prepare the projection material, the slides, and two, how to give the talk, how to actually address your audience. I will come to these two aspects separately.

So, let us start with preparation of the slides. Now, before you start preparing this, you have to have a clear idea regarding the audience that you can expect. There are some conferences that are wide in scope, for example, a general physics conference or an astrophysics conference. Then all the people working in physics or all the people working in astrophysics will be there, while your own field of research might be or will actually be a narrow field of research. There are some conferences that cater to such narrow fields of research. In the former type where the areas covered by the conference is wide in scope, then you can expect varied audience. Not everybody in the audience will have background in your own area of research.

While, if it is a focused area in which the conference is being held then you can expect the audience to be knowledgeable in the background of your field. Therefore, the presentation in the two cases will have to take this aspect into account. Secondly, the time. Normally in a conference, the time allocated to the presentation of a paper may vary from 10 minutes to 20 minutes. Normally, 15 to 20 minutes is the average.

Now, imagine yourself going all the way from India to the United States spending lakhs of rupees and finally, landing there, going to the conference with a lot of hope. You have done the work for 5 years. And then you face the challenge of presenting that in a span of some 12 minutes.

Now, it is really difficult and so a lot of consideration has to go into preparation of the slides. Otherwise everything can be messed up. The time allocated to workshops or seminars may be slightly longer, say 30 to 40 minutes, but normally you have to learn how to present your work in a span of about 15 minutes.

The common mistake is to prepare some 45 slides and try to present it in 15 minutes. No, it is a very bad idea. Normally the time taken to present a slide is about a minute. So, the number of slide should be more or less same as the number of minutes allocated to your main presentation and after that there can be question-answer session. I will come to that.

For the main presentation, if 12 minutes is allocated, you have to prepare 12 slides, at most it can go to 15, but not more than that. If there are more number of slides you will have to rush through the slides which will be disturbing for the audience. If you have less number of slides, then you will have to project one slide for a long time resulting in visual boredom.

So, one slide per minute. The first slide should contain the title, your name and your affiliation. Mainly that is the content in the first slide. And the second slide normally is the outline of the talk; that means, what you are going to present, so that, after the second slide, the audience develops an expectation of what is to come.

But, if the conference is such that the time is premium – only 10 minutes is allocated – then you might not put that slide. But otherwise it is a norm to put a slide saying what is to come. That means, the outline of the talk, how you will present it, what after what, essentially the plan of the talk.

Since in many conferences the audience might not be knowledgeable in your field, that means, it might be a wide-scope conference, therefore, you have to briefly present the background. Even if it is a focused conference, you still have to present the background. That means, what has been done, on that basis what is still unknown, and which questions are we attacking.

Spell out the questions very clearly, as questions. ‘This is the question I am attacking’ and how you are doing that. So, you have to clearly spell the hypothesis, then how you have gone about testing the hypothesis, and the result of the hypothesis testing (if it is a hypothesis testing type of work). Or, if it is a mathematical work, some derivation work, then you have to say what question are you trying to address using that derivation and finally, you have to present it.

Most of the slides should contain pictures, because pictures represent any idea far better than a hundred words. So, try to say things in pictures. If a data collected can be presented in form of a graph, it is better than presenting the data raw data in a table. Nobody is going to really look at the numbers.

But if there is some kind of a graph presented, one can get a glimpse of the whole thing in a short time. So, try to present everything in pictures. Each slide should be dominated by pictures and there should be relatively smaller number of written words, because you are there to explain. You do not have to write what you are going to explain. So, keep things to be done by you and do not expect the listeners to read through the slide. That is a very bad idea.

A common mistake is to write whole paragraphs, that means, the whole slide is dominated by letters, words, sentences, paragraphs. Never do that, because you have to understand nobody in the audience is going to read what is there in this slide, except for quotations.

If it is a quotation, yes, you can put it. But if it is not, do not put wordy passages in the slide. The text of the slide should comprise mainly bullet points. So, try to organize your thoughts, what you are going to present, as bullet points. Normally you should put at most 4-5 bullet points in a slide. Not more than that. Not 10 points, because then it becomes cluttered and not aesthetically appealing to look at.

So, it has to be an aesthetically beautiful slide, and for that, there are some general rules of thumb. One rule is called the ‘6 by 6’ rule, which is 6 lines at most per slide and 6 words per line. So, it is good to stick to this 6 by 6 rule because then the overall look of the slide is aesthetically appealing.

Remember, the slide has to look good. It should not be cluttered and one of the things that you need in order for the slide to look good is to leave out some white spaces. So, there has to be some white spaces around, so that it is aesthetically appealing to the eye.

And each slide should contain one idea. In each slide if you are organizing your thoughts, try to think what are the succession of ideas I have to present and each slide should not contain more than one idea. Each slide should have a single message. Never put two different messages on the same slide. But, one message may need two or three slides to express. That is possible, but never put more number of ideas or information in one slide.

Since I said that the slide has to be aesthetically pleasing, therefore, there are certain things that I should spell out. One, I sad that there has to be smaller number of letters, words and small number of lines, small amount of text, dominated by pictures, the pictures have to be properly arranged and all that.

But at the same time, a common mistake is to put many different fonts in the same slide. Do not do that. There are certain font families: Arial is a family, Helvetica is a family, Times Roman is a family, similarly there are font families, and put only one font family. Even put italic of that font family, even put bold face of that font family.

But do not put different font families in a single picture or even the whole slide. Just choose one font family and stick to it. Choose one format, a template, and stick to it. Do not switch between templates in a whole set of slides. One single template. The fonts of the letters should be normally 24 point slide size. It cannot go below 20, because then it will be difficult for the readers to read. Sometimes people put in a lot of text and in order to accommodate lot of text, you make the font size small. Do not do that. If necessary split it between slides.

One particular problem is that, especially in preparing images which may have different colored lines, is that when you look at it on your computer screen or laptop screen it may look in one way. And when you project it using a projector it may look different. Colors may change, because the color fidelity of the projector is not the same as the color fidelity of your computer screen. Often you find that red becomes brownish in the projection and when these changes happen, then it might become difficult to distinguish between colors.

So, while preparing the slides or preparing the images be careful about this aspect. It is a good idea to check it with different projectors before you present it. But if you do not have that, at least make the colors widely different, so that they would not look similar if the projector's color fidelity is not very good. That often happens.

You have to stick to one basic design regarding preparation of the poster, preparation of the slides. Windows users normally use PPT (PowerPoint) and those who use Latex, for them there are very specialized programs available for that, like Beamer, Prosper, etc. They have a lot of templates available, pre-designed templates. All you need to do is to put in your material in that template, so that you can design very easily.

One thing you should avoid in a scientific presentation: those fancy ways of slide transitions. Some image going around and then positioning itself somewhere. This actually distracts the audience from the main message that you are trying to convey. So, the transition should be simple, one to the other, but if you are going in a succession of bullet points, then it might be that the first bullet point appears, then the second then the third. That is fine. That is not transition. Transition is going from one slide to the next. There should be simple transition.

Since you have very small time available to present your material, it is not a good idea to get bogged down in the details and specifics. Rather focus on the main message. Focus on the main result, focus on the basic idea.

What I normally do is this. The last slide will be a ‘Thank you’ slide, the slide just says thank you. When that slide comes, the person the who is presiding over the program knows that the main presentation is over and then he or she will invite questions from the audience. I always keep a couple of slides after the ‘thank you’ slide, because if such questions come which demand those specifics, I have the material ready at hand, so that I can show that.

So, this is a good idea. You can also do that: keeping some slides after that, anticipating questions. It is good to anticipate questions. I have presented this much and on that basis these questions may come, and I am prepared to answer. I have put those material after the ‘thank you’ slide, so that, if there is a question, I can go there.

And you have to rehearse using the slides. Always keep in mind that you will go forward only. You should not present in a way, so that you have to go a few slides back in order to again point out something. Suppose some picture has been presented in slide 5 and when you are presenting slide 16 you need to refer to that. Then you go back tak-tak-tak and finally, you go to slide 5 show that: ‘this was the picture I am talking about’. That distracts the audience and you lose your time.

If you want to refer to some picture which was shown earlier, you put that picture again in the current slide, so that you do not have to go back and forth. Planning of the whole presentation is very vital. You plan in such a way, so that you do not have to go back and forth. In that case your presentation will be effective. So, these are the points regarding the preparation of the slides. Now I will come to how to present.