

Лекція 5.

Тема 6. Підготовка та участь у міжнародних наукових конференціях

План

1. Роль, значення та доцільність конференцій у науковому співтоваристві
2. Мотиви участі у конференціях для молодих науковців
3. Написання проекту дослідження

1. Is it really worth academically attending conferences?

I know it's a strong start, if it's really worth academically attending conferences, but I really wonder about it. This is another one of the themes that surprisingly emerged when I started my career as a university professor: Submit dissertation / papers to international conferences is required to complete your research resume; and now I realize that in the future it will be necessary for obtaining further citations. Take that! The process generally agreed to disseminate the result of a research paper is as follows.

First, doing the research.

After that, preparing a draft of the manuscript.

Reviewing it with your peers and/or department.

And then, sending it to a conference.

To finally publishing a paper in a journal indexed on a first level database, as Web of Knowledge (Thomson Reuters), Scopus (Elsevier) or EBSCOhost.

This process makes sense and serves a clear purpose of testing the research paper, although the process may well be extended to more than 2/3 years since having the research finished. And it looks like as if designed to measure to insecure people who do not trust themselves or their work, and who needs to be given the nod everywhere possible before disseminating their results.

Also, I haven't very clear that all conferences are equal in terms of relevance, or at least there is no quality assurance or databases attesting them, as with journals. So, it would be the same attending one or the other whenever international, organized by a reliable university or institution, with scientific committee and peer-review process.

Finally, before moving on to the poll, I also want to mention that you must be careful with the publication of proceedings; as Editor-in-Chief I've seen a publisher reject an article because it appeared on the website of an old conference, even though the rules of the journal allowed it.

Well, today I'm very interested in your opinion about the conferences you attend. This world is also changing, and each time I don't feel like travelling and convincing people who don't even read my work.

So, what kind of conferences are you attending?

Any kind of conference my field of knowledge is acceptable.

Only to international conferences.

Depending on the scientists / professors attending (for networking).

Those organize in my city / my country, funding is not always available.

I attend (or planning to attend) virtually, if possible, it's a new interesting trend.
Only those organized by universities or institutions that I trust.
Only if the paper presented is published in the proceedings.
Only if the paper presented is eligible to be published in indexed journals.

2. 8 Reasons to attend international academic conferences

There is an abundance of academic conferences today as compared to the past. This brings us to a simple question, "Why should one attend an academic conference?" Below are 8 reasons why people say they attend our conferences.

1. Presenting a paper. Presenting a paper is one of the main objectives of an academic conference participant. The presenter will have the chance to present a paper in front of colleagues of the same or similar fields of study and will be able to receive positive feedback and constructive criticism about their research. The exchange of ideas on fields of interests seeds the links for future collaborations across the world. There are many who were once GAI conference participants now developing research projects and writing papers together.

2. Networking for future collaborations. Attending an academic conference is an opportunity to build networks with other academics and experts in the same or similar field of studies all around the world and to share thoughts on recent advances and technological breakthroughs. It is an opportunity to expand the knowledge that one has and upgrade performance in accomplishing institutional objectives. Conferences bring together people who share a common discipline from different parts of the world, bringing different forms of ideas which build into something greater. As you step up and attend conferences you build a network of people who can raise your caliber of work to greater heights as you achieve shared objectives.

3. Publication. Another common reason for attending a conference is no doubt publication. Conference proceedings are always a good way to have your research published and indexed. You'll also have the opportunity to publish your research in one of the GAI journals. Please note that only selected papers are published in GAI journals for free of charge while all papers/abstracts accepted for the conferences are published in the conference proceedings with an ISBN.

4. Socialization and the culture factor. Meeting new people with different cultures and dispositions enlightens your way of thinking in your field of study. You will witness some of the many different aspects and solutions which exist on the same issues. You'll also have the chance to socialize with your colleagues at coffee breaks, lunches and social activities. Imagine a conference without socializing or learning more about other people's cultural tradition? This cannot be summed up adequately as people from different parts of the world who have uniqueness in their ways of living which you are often surprised to learn from.

5. Travelling. An academic conference is a great way to have a "break" from your academic responsibilities at the university and discover different cities of the

world. Be assured that you'll feel relaxed and refreshed when you return to your institution after the conference.

6. Find out what's new. It is vital to find out what's new in your field of study to survive in an academic discipline. Academic conferences will keep you updated on new findings that have taken place. This is in fact one of the major reasons why one should attend an academic conference.

7. The focus and energy of Like-Minded Individuals. When one attends an academic conference, he or she is sure to meet people of his or her same stature, mindset and goals. This is a motivational factor as one aspires to overcome fears and achieve one's dreams.

8. Added Research Value. For students and researchers, academic conferences help to make research on a particular subject easier. They provide access to various research activities related to a particular subject with current findings and developments anticipated from them.

Conclusion. In today's fast changing world, attending a conference has become a "must" to survive in an academic discipline. Many academics have become aware of this fact as the number of conferences and participants increase dramatically. We look forward to collaborating with you at a GAI conference!

3. Writing an Application for a Research Project Grant

There are several components to a strong grant application. First, the subject must be creative, exciting, and worthy of funding. Then, the project must be developed through a rigorous, well-defined experimental plan. Finally, you must make sure that the information is presented in clear language and that your application follows the rules and guidelines detailed in the grant application kit.

This document will help you make sure your application for a **research project grant** addresses the key questions reviewers ask.

Eight Basic Questions Reviewers Ask

- How high are the intellectual quality and merit of the study?
- What is its potential impact?
- How novel is the proposal? If not novel, to what extent does potential impact overcome this lack? Is the research likely to produce new data and concepts or confirm existing hypotheses?
 - Is the hypothesis valid and have you presented evidence supporting it?
 - Are the aims logical?
 - Are the procedures appropriate, adequate, and feasible for the research?
 - Are the investigators qualified? Have they shown competence, credentials, and experience?
 - Are the facilities adequate and the environment conducive to the research?

Writing a grant application is a major undertaking.

Developing Your Research Plan

A top-quality research plan is the most important factor determining your application's success in peer review. As with a scientific publication, developing your ideas is key. Read the PHS 398 grant application kit carefully for specific elements to be included in the research plan.

Before proceeding into specific sections of the plan, here are some general tips:

- Your application should be based on a strong hypothesis.
- Be sure your project has a coherent direction.
- Keep the sections of the plan well coordinated and clearly related to the central focus.
- Emphasize mechanism: A good grant application asks questions about biological mechanisms.
- Don't be overly ambitious - your plan should be based on a feasible timetable.
- Specific aims and experiments should relate directly to the hypothesis to be tested.

A. Specific Aims

• Your specific aims are the objectives of your research project, what you want to accomplish. The project aims should be driven by the hypothesis you set out to test. Make sure they are highly focused.

• Begin this section by stating the general purpose or major objectives of your research. Be sure all objectives relate directly to the hypothesis you are setting out to test. If you have more than one hypothesis, state specific aims for each one. Keep in mind your research methods will relate directly to the aims you have described.

• State alternatives to your hypothesis and explain why you chose the one (or more) you selected.

• Choose objectives that can be easily assessed by the review committee. Do not confuse specific aims with long-term goals.

B. Background and Significance

• Keep the statement of significance brief. State how your research is innovative, how your proposal looks at a topic from a fresh point of view or develops or improves technology.

• Show how the hypothesis and research will increase knowledge in the field. Relate them to the longer-term, big picture scientific objectives and to the betterment of public health.

• Justify your proposal with background information about the research field that led to the research you are proposing. The literature section is very important because it shows reviewers you understand the field and have a balanced and adequate knowledge of it.

• Use this opportunity to reveal that you are aware of gaps or discrepancies in the field. Show familiarity with unpublished work, gained through personal contacts, as well.

• Identify the next logical stage of research beyond your current application.

C. Preliminary Studies/Progress Report

By providing preliminary data, this extremely important section helps build reviewers' confidence that you can handle the technologies, understand the methods, and interpret results.

- Preliminary data should support the hypothesis to be tested and the feasibility of the project.

- Explain how the preliminary results are valid and how early studies will be expanded in scope or size.

- Make sure you interpret results critically. Showing alternative meanings indicates that you've thought the problem through and will be able to meet future challenges.

- Preliminary data may consist of your own publications, publications of others, unpublished data from your own laboratory or from others, or some combination of these.

- Include manuscripts submitted for publication. Make sure it's clear which data are yours and which others reported.

D. Research Design and Methods

Describe the experimental design and procedures in detail and give a rationale for their use. Organize this section so each experiment or set of experiments corresponds to one of your specific aims and is stated in the same order. Even holding to this structure, the experiments still must follow a logical sequence. They must have a clear direction or priority, i.e., the experiments should follow from one another and have a clear starting or finishing point.

Convince reviewers that the methods you chose are appropriate to your specific aims, that you are familiar with them, and that, unless innovative, they are well established. If your methods are innovative, show how you have changed existing, proven methods while avoiding technical problems. Also, describe why the new methods are advantageous to the research you propose to do.

More and more applicants are including colored charts, graphs, and photographs in their applications. If you must use color to get your point across, it is wise to also place a copy of the item in an appendix, noting this in the body of the text. (However, do not put important figures only in the appendix, or overly-reduced figures in the body of the application with enlargements in the appendix. The Research Plan must be self-contained. The appendix should not be used to circumvent the Research Plan page limits.) Many applicants are not aware that most of the study section members receive only black and white photocopies of their original application. However, assigned reviewers do receive originals of the appendices (which is why five copies are requested) and usually receive original copies of the application as well.

Approach

- State why you chose your approach(es) as opposed to others.

- If you are choosing a nonstandard approach, explain why it is more advantageous than a conventional one. Ask yourself whether the innovative procedures are feasible and within your competence.

- Call attention to potential difficulties you may encounter with each approach. Reviewers will be aware of possible problems; convince them you can handle such circumstances. Propose alternatives that would circumvent potential limitations.

- Consider the limitations of each approach and how it may affect your results and the data generated.

- Spell it out in detail. While you may assume reviewers are experts in the field and familiar with current methodology, they will not make the same assumption about you. It is not sufficient to state, "We will grow a variety of viruses in cells using standard in vitro tissue culture techniques." Reviewers want to know which viruses, cells, and techniques; the rationale for using the particular system; and exactly how the techniques will be used. Details show you understand and can handle the research.

- Make sure any proposed model systems are appropriate to address the research questions and are highly relevant to the medical problem being modeled.

Results

- Show you are aware of the limits to - and value of - the kinds of results you can expect based on current knowledge of the subject. State the conditions under which the data would support or contradict the hypothesis and the limits you will observe in interpreting the results.

- Show reviewers you will be able to interpret your results by revealing your understanding of the complexities of the subject.

- Many applications benefit from statistical analysis. The early involvement of a statistician to determine the amount of data to collect and the methods for analyses will favorably impress reviewers.

- Describe your proposed statistical methods for analyzing the data you plan to collect. Define the criteria for evaluating the success or failure of a specific test.

Other pointers

- Read the PHS 398 carefully for specific requirements, especially those involving human subjects.

- Estimate how much you expect to accomplish each year of the grant and state any potential delays you can anticipate.

- Describe sources of reagents, animals or equipment not generally available. If collaborators will provide them, include letters from the sources in your application.

- Describe any procedures, situations, or materials that may be hazardous and precautions you will take.

- Include supporting data. Where appropriate, include well-designed tables and figures. Use titles that are accurate and informative. Label the axes and include legends. Reviewers will look for discrepancies between your data and text.

- Include relevant publications. If you (or your collaborators) have publications showing your use of the proposed methods, put them in the appendix.

E. Human Subjects

Assuring NIH human subjects are protected is a key responsibility of the applicant, in concert with the applicant's institution. Awards cannot be made until assurances are on file here.

If your proposed research does not involve human subjects, indicate this by noting "Not applicable in this section of the 398." Anyone reading your application will know immediately you have not just forgotten to complete this section.

If your proposed research involves human subjects or samples from human subjects, read carefully and follow the Human Subjects Research section of the PHS 398 instructions.

Include enough information so reviewers have no questions about what you propose to do. In addition, your research plan must be certified by your institution's institutional review board (IRB) prior to funding (unless exempt). Though IRB approval is not required at the time of application, you should start the process early because revisions and final approval can take time.

Before an application can be funded, a Human Subjects Assurance must be on file with the Office of Human Research Protections. Contact OHRP or your institutions grants and contracts office for details and help.

F. Vertebrate Animals

If applicable, your application should include:

- A detailed description of the proposed use of animals.
- A justification for the choice of species and number of animals to be used (describe any statistical methodology used for this determination).
- Information on the veterinary care of the animals.
- An explanation of procedures to ensure that the animals will not experience unnecessary discomfort, distress, pain, or injury.
- Justification for any euthanasia method to be used. If the proposed research involves vertebrate animals, your project must be reviewed and approved by an institutional animal care and use committee (IACUC) prior to review, and an Animal Welfare Assurance must be on file with the Office of Laboratory Animal Welfare. See the instructions for item 5 of the face page of PHS 398 for further details. For more information, contact OLAW or your institution's grant or contracts office.

G. Literature Cited

Refer to the literature thoroughly and thoughtfully but not to excess. The publications you cite need not be exhaustive but should include those most relevant to your proposed research.

Research proposals typically do not fare well when applicants fail to reference relevant published research, particularly if it indicates that the proposed approach has already been attempted or the methods found to be inappropriate for answering the questions posed.

Each citation must include the names of all authors (not et al.), name of the book or journal, volume number, page numbers (not first page only), and year of publication.

H. Consortium/Contractual Arrangements

This section should briefly describe any consortium and contractual arrangements you have made with regard to the proposed research plan. The roles of individuals or organizations with whom you have made such arrangements should be noted and reference made to any letters from them that are included in the application. Letters should describe the individual's or organization's understanding of the consortium or contractual arrangements.

I. Consultants

Careful selection and addition of consultants can add credibility to your application and greatly improve its quality. A letter describing the willingness of an investigator to participate as a consultant to your project should be included in your application.