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Successful Papers & Grant Proposals

What happens first when you send your paper to a journal

- ◎ 1-Initial review by the associate editors
- ◎ 2-Peer review
- ◎ FIRST IMPRESSION: GOOD ENGLISH:
Get help!!

Five common types of problems(Davidoff 1998)

- 1-Too much information,
- 2-Too little information,
- 3-inaccurate information
- 4-Problems of structure
- 5- Problems of organization

Changes were requested most often because of missing information, particularly in the introduction or conclusions to the paper.

Important factors to consider

1-What is the best format of presentation of the research done? eg: as original article, review, case report, or correspondence,? because format is different for different type of articles.

2-Target audience for the publication and which journal?: Aspiring authors will improve their chance of acceptance if they choose an appropriate journal for their topic and adhere to conventional rules.

3-A thorough literature search is quite essential :

a) to identify the knowledge gaps in the existing information and the proposed paper may be aimed to fill them up.

b) to avoid duplication if the same message or project has been published already. Most journals do not wish to consider for publication a paper or work that has already been reported in a published paper.

4-Other matters related to authorship, ethical, and statistical clearance may be obtained well in advance.

IMRaD

One of the key developments in scientific publication since 1950, has been the wide spread adoption of the IMRAD structure. It is

set around four distinct sections :

- 1) The Introduction
(Why did we start)?
- 2) Methods (What did we do?)
- 3) Results (What did we find?)
- 4) Discussion (What does
it all mean?)

TAKAR

Title,
Abstract, Keywords, Acknowledgements,
and References

General considerations

1-The various sections of the paper are clearly identifiable and appropriate. The content of each section should correspond to the subtitle used, for instance, there is no 'Discussion' in the 'Results' section. The transition from one section to next should be easy to follow.

2- The terminology has to be uniform through out the paper. For eg. abbreviations should be consistent and units of measurements should be the same in the text as in tables.

3-The writing style has to be clear and pleasant. There should not be spelling mistakes. Special care is needed in following British Vs American spellings. Text is, generally written in passive voice. Uniform 'tense' has to be used.

4- Follow the instructions of the journal, you are writing regarding tables, graphs illustrations, the text matter, type of manuscripts etc. to be used in the article.

5- Follow the ethical guidelines strictly as specified by ICMJE.

6- All the direct and indirect help in the study has to be acknowledged, without fail.

Starter grants

Limited term/size funding (usually not renewable) that you can obtain to move towards large scale/renewable funding such as:

- ◎ Fellowship grants
- ◎ Concept awards
- ◎ Idea awards
- ◎ Other small scale grants from private/federal agencies
- ◎ Funding possibilities within the institute

Starter grants

- ◎ Serve as the basis of your funding profile
- ◎ Allow you to perform original work
- ◎ Enhance your capabilities in terms of managing research funds
- ◎ Provide a basis for applying for large scale grants
- ◎ Increase your confidence in marketability of your research

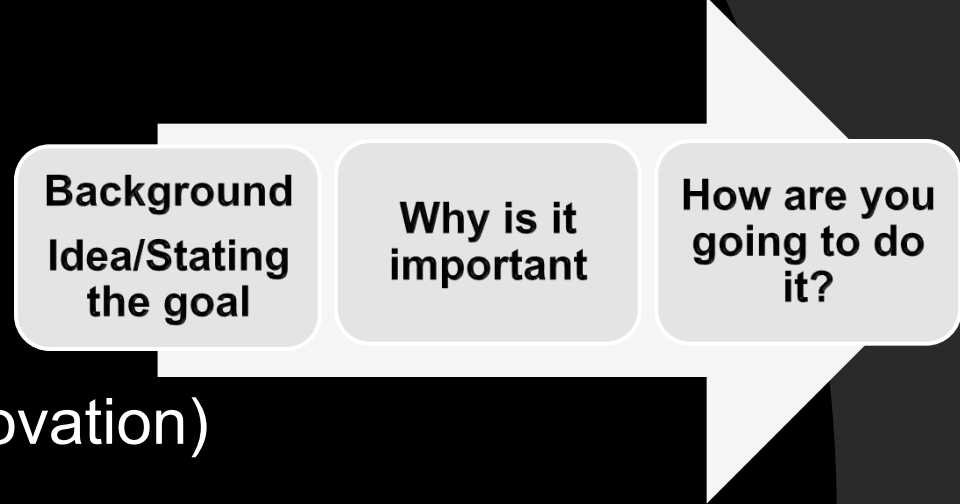
Before You Write

- ◎ **Find an appropriate funding source: Internet, mentor, colleagues, talks, networking**
- ◎ **Know the funding agency.** Funding agencies, whether federal or private, support work that furthers their mission. That mission is stated in program announcements. Analyze these documents and clearly demonstrate in your application that you meet their requirements. Call and talk to the program officer assigned to the RFA. Tell them your research idea and ask for advice on the topic.
www.cos.com (community of science)
www.Grants.gov
<https://proposalcentral.altum.com>
Google & Google scholar
- ◎ **Know your colleagues and ask for help.** Research is highly interdisciplinary and no one person can do it all. Colleagues are essential for ideas, critiques, and guidance. Know your weak areas and collaborate with colleagues who are strong in those areas.

Anatomy of a research proposal

One size doesn't fit all:

- Title
- Abstracts
- Introduction
- Background/Rationale(Innovation)
- Specific Aims/Hypothesis
- Research Design/Methods
- Alternative approaches
- Significance/Innovation/Statistical Methods/
- Budget
- Letters of collaboration/support



Background
Idea/Stating
the goal

**Why is it
important**

**How are you
going to do
it?**

Structure of a successful grant

- ◎ **Who:** Biographical sketches, key personnel, contributors, human subjects
- ◎ **What:** Hypothesis, specific aims, research design/ methods
- ◎ **Why:** Background/significance, preliminary data, research design/methods , innovation and impact
- ◎ **When:** Background/significance, preliminary data, research design/methods, timelines
- ◎ **Where:** Research design/methods, performance sites, resources
- ◎ **How:** Preliminary data, research design/methods, budget

Make it easy for them to say YES!

- ⦿ **Make sure the fit is good. Your project should closely match their guidelines. Otherwise, you're wasting their time—and your own.**
- ⦿ **Follow the instructions exactly. They have to read lots of proposals. When one is exactly right, they'll appreciate it—and remember it.**
- ⦿ **Convince them that funding you is a smart investment—you'll use their money carefully, you'll get a lot done, and you'll help them achieve their goals.**
- ⦿ **Show them that you will give them what they need. That may be strong evaluations, good publicity, or knowing that they are really making a difference.**
- ⦿ **Make connections and build relationships with foundation staff and board members whenever you can. People give money to people they know.**

Enjoy!

- ◎ Grant writing is exciting: every chance is a new possibility!
- ◎ It's also an addictive habit, but a very good one!
- ◎ Pay attention to the topics of this course: Your research career can use this tremendously!

Establishing your expertise

The reviewers will examine critically :

Your training, previous work and environment

The qualifications of your mentor, other faculty around you

- ◎ To evaluate the basis of the project
- ◎ To predict the chance of success
- ◎ To evaluate you
 - Ability to develop and test hypotheses
 - Ability to design rigorous experiments
 - Expertise with experimental techniques
 - Expertise in analysis of data
 - Rigor in interpreting the data
 - Ability to present findings clearly and effectively
- ◎ Sloppiness here is absolutely fatal
- ◎ Conclude from your data in a bulleted format
- ◎ Make a statement under PI's qualifications

Establishing your expertise

Don't neglect the research design

- ◎ This section is not just methods.
- ◎ Outline experimental plan.
- ◎ Base on specific aims - restate aims and describe flow of experiments under each aim.
- ◎ Develop the logics of the project.
- ◎ Describe timeline, sequence of experiments.
- ◎ Describe potential pitfalls and what you will do if they occur.
- ◎ Think about clinical relevance(if applicable).

Establishing your expertise

- ◎ Developing your numbers
- ◎ Even if the agency doesn't want details, work up a detailed budget so you know what you can do with the funds available
- ◎ Use real numbers
 - Real salaries and fringes
 - Real costs of supplies, animal care, etc
 - Include everything you will need
- ◎ Extrapolate costs to start date of **grant**
- ◎ Don't "low ball"
- ◎ Don't forget indirect costs

Hypothesis and specific aims

- ◎ Your hypothesis should be provable with the resources you request.
- ◎ Make sure your hypothesis will generate aims and methods you can accomplish within that time and with those resources. Reviewers quickly pick up on how well matched these elements are.
- ◎ After you've chosen your hypothesis, outline your specific aims.
 - List your aims and then all the experiments you'll do to support each aim.
 - Keep in mind that your experiments support your aims, and your aims support your hypothesis.
 - Do not have more than 3-5 specific aims.
- ◎ Use graphics to plan experiments.
 - Chart experiments with decision trees showing alternative pathways should you get negative results.
 - Include these graphics; they help reviewers understand what you plan to do.

Specific Aims

- ◎ Short paragraph describing overarching goal of project
- ◎ Brief list of specific things you plan to accomplish during the project
 - 3 - 5 Aims
 - For small scale grants it's better to avoid sub-aims.
- ◎ length 1/2 to 1 page
- ◎ Broad overview of goals, hypotheses to be tested and approaches to be used, in telegraphic form.
- ◎ Adhere with stating “WHY” in specific aim
Not “HOW”.

Background/Rationale

- ◎ Shape the background in a way that prepares the readers to see the need for your research.
- ◎ Avoid very lengthy backgrounds, for small-scale grants usually 1-2 pages are enough (if about 10 pages are allowed). If you have a 3-5 page limit scale that to less than one page.
- ◎ State a paragraph covering your rationale for doing this research.

Innovation/Impact/Significance

- Reiterate the significance of your work at the beginning of proposal and explain why it's innovative.
- What is the impact:
 - On improvement of the field
 - On health of the society
 - On health care system
 - at national and international level
- Innovation:
 - Scientific,
 - Application related,
 - Cost/benefit analysis
 - Health Market
- Have a clear understanding of relevance of your statistical method and explain that in a paragraph.
- Project the timeline of your research

Writing the Grant

- ◎ **Make time.** Give yourself more time to write than you think you need.
- ◎ **Read the instructions.** rules on format, length, and necessary elements. Give the reviewers the information they need in the format they require. Get a copy of a successful grant as a model.
- ◎ **Write clearly.** Clearly communicate the hypothesis, aims, methods, and significance of your work. Demonstrate that your hypothesis is sound, your aims are logical and feasible, you understand and have prepared for potential problems, and you can analyze the data. Don't assume your reader knows what you mean; explain complex concepts or terms. Keep abbreviations, acronyms, and discipline-specific jargon to an absolute minimum. Write the abstract last, as an accurate summary as well as a preview of the grant. Get help from a scientific editor. The better the writing, the better your chances for success.
- ◎ **Tell a story.** Be sure your proposed research is innovative, exciting, and worthy, then tell that story in your application. Write your proposal as a lucid, persuasive narrative—like a compelling piece of scientific journalism. Find and highlight your application's “wow” factor. Tell why it is important to science and how it will better human health.

Writing the Grant

- ◉ **Answer these questions: Who, What, When, Where, How, Why?**
- ◉ **Who:** Biographical sketches, key personnel, contributors, human subjects
- ◉ **What:** Hypothesis, specific aims, research design/methods
- ◉ **When:** Background/significance, preliminary data, research design/methods, timelines
- ◉ **Where:** Research design/methods, performance sites, resources
- ◉ **How:** Preliminary data, research design/methods, budget
- ◉ **Why:** Background/significance, preliminary data, research design/methods
- ◉ Edit! Revise! Allow about two weeks for each draft revision, including time to toss it in a drawer and come back later with fresh eyes. Ask a colleague in your field, an intelligent non-expert, and a good scientific editor to review your application. A professional editor IS worth the time and expense. They fix what you've missed and catch poor structure, missing elements, vague ideas or methods, etc.
- ◉ **Editing Checklist:**
- ◉ Have I written my application to the educated layman?
- ◉ Did I use an outline to structure my proposal clearly and logically?
- ◉ Are all elements in the right place?
- ◉ Did I ask an expert colleague to review the application?
- ◉ Did I ask an educated layman to review the application?
- ◉ Did I ask a professional scientific editor to edit the application?
- ◉ Am I correct and consistent in style (grammar, spelling)?
- ◉ Have I purged excess jargon, obscure acronyms, and highly technical terms?
- ◉ Have I explained anything that isn't clear?
- ◉ Have I written in the active voice?
- ◉ Have I pruned run-on sentences?