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Create Better Science

Basics of Grant Applications

Blueprints for a do-it-yourself seminar

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Kristian says:
I can't create better science for everybody on my own. Now you can do that yourself.

Who is this guide for?

- You are a PhD or undergraduate student and want to familiarize with grant writing.
- You are a postdoc and want to give an interesting and useful lab seminar.
- You run a scientific lab and need your team to write more/better grants in the future.

What can I do with these blueprints?

This guide is a step by step recipe for a 90-minute seminar on grant applications.

You can conduct it with a group of 5 – 15 people. Any place fit for a group meeting or lab seminar should be sufficient. You don't need any prior knowledge about grant writing to moderate the session.

The seminar can be presented by one or two people. If your group is big or you have little experience with moderating groups, getting someone to help is a particularly good idea. It is more fun, too.

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Overview

The seminar consists of two parts:

I. Grant applications in a nutshell (45')

You will experience the grant application process during a small contest. Participants give short **project pitches**, which are reviewed and voted on afterwards. The purpose of this part is to motivate your team to become interested in grant applications and to write good applications.

II. Stages of a grant application (45')

You will learn which stages a typical grant application needs to pass. Participants will answer **True/False questions** related to the roles of **grant secretary, reviewers, grant commission** and the **application process** as a whole. The purpose of this part is to give you the most basic survival skills when writing grants, and to clearly separate the different roles that will decide about your grant.

Benefits

- You have the opportunity to exercise your 'elevator pitch'.
- You have material for a lab seminar that needs very little preparation.
- You save money for a professional grant writing training (or prepare for it).

Feedback

Kristian says: *I'd be happy to know how this course worked for you. Your suggestions for improvement are welcome at: krother@academis.eu*

Part I: Grant applications in a nutshell

“Imagine, your project will run out of funds next week. You need to convince a funding agency to fund your research for another two years. Your chance is to present your project, but you only have exactly 60 seconds.”

Time: 45'

Material

- 1 index card per participant
- 1 printed reviewer sheet for each participant
- stopwatch

Action sequence

1. Each participant writes their name on an index card
2. Explain rules of the elevator pitch (see text on top of the page)
3. Distribute reviewer sheets to all participants
4. five minutes preparation time
5. Collect index cards and draw a name
6. Ask that person to give his/her pitch. Measure time. **Applaude!**
7. Go through steps 5 + 6 until all participants have spoken
8. Collect the ballots
9. Count votes. Discard all pitches that lasted more than 60 seconds.
10. Ask a question for a short closing discussion: *“What makes a pitch stick out of the crowd?”*

Getting your lab leader on board

I am convinced that this exercise works better without lab leaders present (or, god forbade, participating in the contest). If your lab leader insists on being present, they can make themselves useful in the following ways:

- Give his own pitch as an example afterwards
- Note things that people did well and report them
  Kristian says: *do not give negative examples in front of your team! Never.*
- Be the lucky duck (draw names)
- Help as the grant agency representative (counting and announcing the winner)

Part II: Stages of a grant application

Time: 45'

Material

- Slide: the application process
- 32 True / False questions printed on cards (4 per page, then cut)
- 1 sheet of paper per participant for answers
- Slide deck with 32 True / False questions
- Sheet with answers for trainer

Action sequence

1. Arrange the questions in 4 piles A-D throughout the room
2. Explain the task “Answer all questions with True or False”
3. Share sheets for noting answers
4. Give the group 20 minutes to work on the questions
5. Highlight the questions and ask the group for their answers. When in doubt, cite from the sheet with answers
6. Use remaining time for discussion

After the seminar

- Send the answers and the PDF **“Getting Grants”** to all participants
- Send your experience what worked well and what didn't to **krother@academis.eu** .

Reviewers' Ballot

	name of contestant	notes
1.	_____	_____
2.	_____	_____
3.	_____	_____
4.	_____	_____
5.	_____	_____
6.	_____	_____
7.	_____	_____
8.	_____	_____
9.	_____	_____
10.	_____	_____
11.	_____	_____
12.	_____	_____
13.	_____	_____
14.	_____	_____
15.	_____	_____

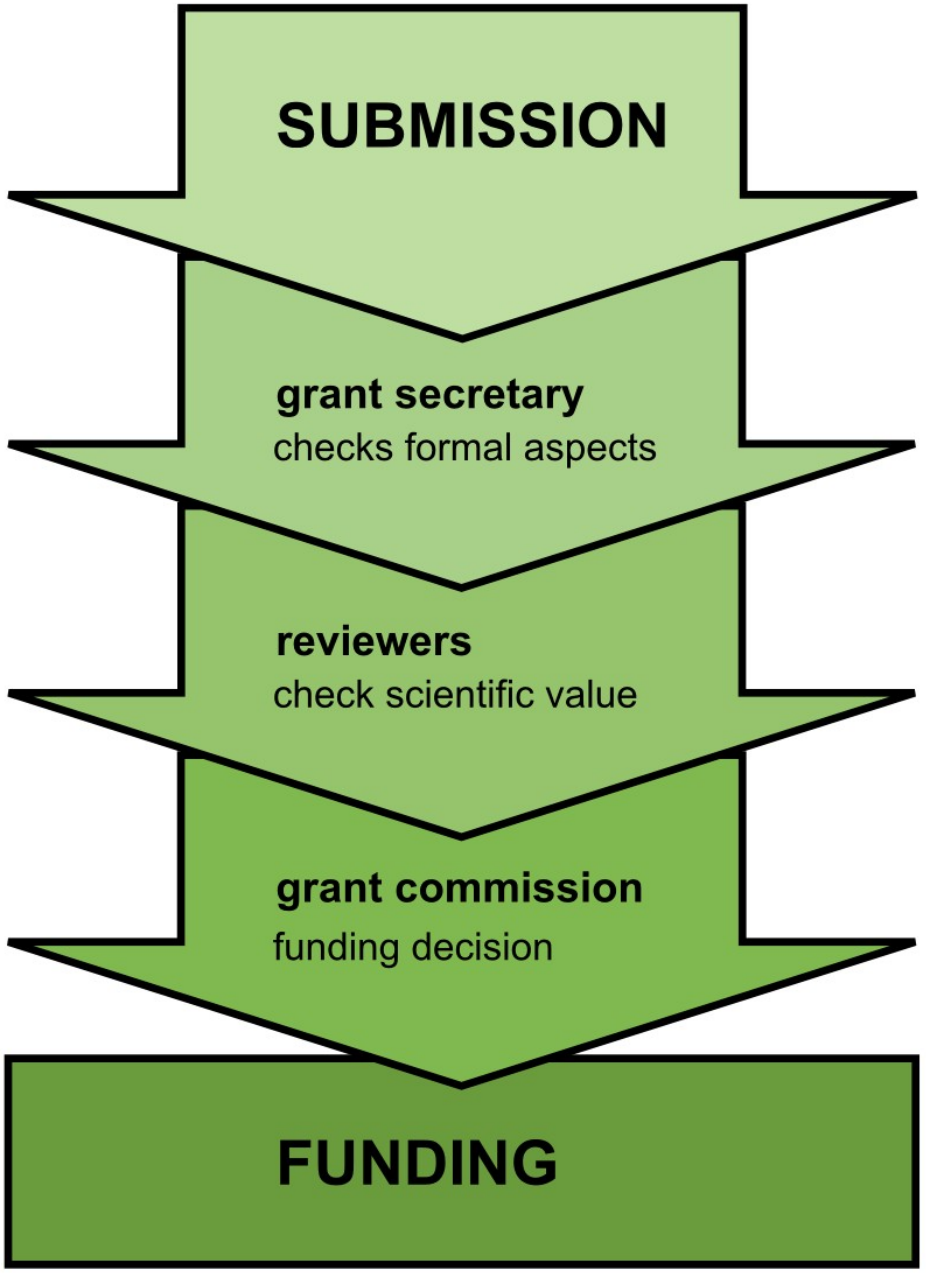
Voting Ballot

Please write the names of three scientists you would like to fund.

1. _____
2. _____
3. _____

separate the ballot and give it to the moderator for counting votes.

The Application Process



(A) Write powerful applications

A1)

You should abbreviate technical terms whenever possible.

A2)

The title of your application must suggest a potential benefit to the general public.

A3)

Logic in a project proposal is

easy to refute.

(to refute = to debate with,

to give counter-arguments)

A4)

You need to review literature in the introduction of your proposal exhaustively.

A5)

Images increase your chance of acceptance by about **10%**.

A6)

Unpublished manuscripts

(in prep., submitted, in press)

do not add value to your application.

A7)

Your application needs to convey one simple message.

Not more.

A8)

Overheads, also called *indirect costs*, are money in a grant budget your host institution will receive.

(B) Convince

the secretary

B1)

Up to 25% of applications are rejected for formal reasons.

B2)

Submitting one or two days after the deadline usually is OK.

B3)

People in grant agencies generally want to help you.

B4)

The grant secretary spends about **5'-15'** per application in the first round.

B5)

Exceptions on eligibility criteria are never granted even if you ask for them.

B6)

In the grant description, there can be lots of small print that you need to read very carefully.

B7)

Sending extra documents helps your application even if they are not required.

B8)

The best way to befriend the secretary is to follow instructions by the letter.

(C) Convince the reviewer

C1)

Grant reviewers are normal scientists with normal research duties.

C2)

Most often, a reviewer will be from a related field.

C3)

Mentioning collaborations you will establish in the future supports your application.

C4)

To make your proposal more exciting, you should use techniques that you still need to learn.

C5)

You should emphasize obvious strengths of your proposal, e.g.: *“This application is unique, because... “*

C6)

Being a grant reviewer gives you a generous side income.

C7)

Preliminary data provides a very strong support for any application.

C8)

The best way to convince a reviewer is to make his or her work easier.

(D) Convince the commission

D1)

An interesting CV helps you to stand out of the crowd in the commission meeting.

D2)

The commission members often read only the summary of your proposal.

D3)

The commission spends at least one hour per application.

D4)

You need to have lots of publications to get funded.

D5)

Commissions react positively on proposals that are “only” a continuation of a PhD project.

D6)

You should summarize the project in one sentence at the beginning of your summary.

D7)

To get funded, you have to know a few commission members.

D8)

The best way to convince the panel is to state a problem clearly and offer a solution.

Answers to True / False questions

A) Writing powerful applications

question	answer	explanation
A1	False	*You should abbreviate technical terms whenever possible.* Please don't! The more abbreviations you use, the less readable your text becomes. Better ask a colleague from a related field which abbreviations they understand without looking up.
A2	False	*The title of your application must suggest a potential benefit to the general public.* It is sufficient if your reviewers will see the usefulness of your work. Putting a bold statement “cure cancer” in the title may put them off early.
A3	True	*Logic in a project proposal is easy to refute.* Unlike a scientific paper, good persuasive writing should avoid discussions instead of inciting them. Logic alone invites the next question and the next and so on. To fully convince, you need an 'emotional hook' or 'vision' that your proposal revolves around.
A4	False	*You need to review literature in the introduction of your proposal exhaustively.* A grant application is not a review paper or a thesis. It is sufficient to cite enough work to support your main point, preferably covering the most important authors in the field.
A5	True	*Images increase your chance of acceptance by about 10%.* Images make your text more pleasant to read and to understand. In particular the visual types of reviewers prefer e.g. a schematic overview of your project or a compelling preliminary result.
A6	False	*Unpublished manuscripts (in prep., submitted, in press) do not add value to your application.* Of course, unpublished work has not the same impact as a peer-reviewed paper. But it provides evidence that you have already worked on a subject, and that may tip the balance in your favor.
A7	True	*Your application needs to convey one simple message. Not more.* You cannot explain or defend a grant application once it is submitted. Therefore it must be absolutely clear. Having a single premise is fundamental to that.
A8	True	*Overheads, also called indirect costs, are money in a grant budget your host institution will receive.* Before writing a budget in your application, you need to find out whether and how much your host institution charges in overheads. Usually this is a percentage, e.g. 20%.

B) Convincing the grant secretary

question	answer	explanation
B1	True	*Up to 25% of applications are rejected for formal reasons.* Unfortunately true. This is a good reason to do your homework thoroughly and not start preparing an application one week before the deadline.
B2	False	*Submitting one or two days after the deadline usually is OK.* Not OK. In a competitive grant, late submission seals your fate right away.
B3	True	*People in grant agencies generally want to help you.* After all, it is their job to fund researchers. Asking about your application can be even beneficial. However, don't pester them, especially avoid calls right after a deadline (full desks).
B4	True	*The grant secretary spends about 5'-15' per application in the first round.* Expect that they have a lot of applications to approve and send out to reviewers. If your application can use the limited attention span to make itself positively memorable, great.
B5	False	*Exceptions on eligibility criteria are never granted even if you ask for them.* **Kristian says:** This has happened to me. But I had to ask. As a rule of thumb, the more competitive the grant, the less your chance for an exception.
B6	True	*In the grant description, there can be lots of small print that you need to read very carefully.* You need to double and triple check the regulations well in advance. In particular the eligibility criteria, because they can spell a premature end to your application.
B7	False	*Sending extra documents helps your application even if they are not required.* This is very risky. Most probably, the secretary will not know what to do with the extra documents and may perceive them as an impediment.
B8	True	*The best way to befriend the secretary is to follow instructions by the letter.* A neat, formally correct application means less work.

C) Convincing the reviewer

question	answer	explanation
C1	True	*Grant reviewers are normal scientists with normal research duties.* **Kristian says:** I once thought reviewers were an obscure circle of bearded men sitting in a special ivory tower. Turns out they are experienced (and usually busy) researchers.
C2	True	*Most often, a reviewer will be from a related field.* Yes, simply because finding a reviewer from the same field may be too tedious for the grant agency.
C3	False	*Mentioning collaborations you will establish in the future supports your application.* Imagine the following dialog: “Will you join my party on Saturday?” - “Yes and I'll bring my girlfriend.” - “Which girlfriend?” - “I don't have one right now, but until Saturday I'll find one.” Does that sound credible? Same thing with grants.
C4	False	*To make your proposal more exciting, you should use techniques that you still need to learn.* Usually there needs to be novelty in an application, but it should not be you starting from zero. The notable exception is if you can field a collaboration partner that you can learn from (and helps you write the according part of the application).
C5	True	*You should emphasize obvious strengths of your proposal, e.g.: “This application is unique, because... “* This is a very strong technique. If your reviewer needs to fill in a box “uniqueness”, make sure there is a bold headline, so that he does not have to search for long.
C6	False	*Being a grant reviewer gives you a generous side income.* You wish! Researchers review grants to see trends and interesting ideas early on, not to fund their third swimming pool.
C7	True	*Preliminary data provides a very strong support for any application.* Yes. Have it.
C8	True	*The best way to convince a reviewer is to make his or her work easier.* Reviewers have lots of things to do. You can at least make sure that they don't waste time searching things in your grant application.

D) Convincing the grant commission

question	answer	explanation
D1	True	*An interesting CV helps you to stand out of the crowd in the commission meeting.* Being remembered for your CV is a good way to pave the way to acceptance. **Kristian says:** Years ago I reviewed the CV of a PhD candidate who featured horseback riding and archery. I don't remember any other details, but I supported hiring her.. just in case the institute would be attacked by barbarians.
D2	True	*The commission members often read only the summary of your proposal.* If you are lucky, depending on the number of applicants. Therefore make sure that your abstract (and its first sentence) can be understood by a non-expert.
D3	False	*The commission spends at least one hour per application.* Some calls are answered by hundreds of grant proposals. Even if there are only ten, such a meeting marathon would be a nightmare.
D4	False	*You need to have lots of publications to get funded.* Of course, publications help. However, funding agencies want to promote newcomers as well as established scientists. How could you compensate the lack of a publication?
D5	False	*Commissions react positively on proposals that are "only" a continuation of a PhD project.* After a PhD, it is usually expected that you shift your focus considerably. If you are able to explain how the skills from your PhD still will be useful, you have scored a point.
D6	True	*You should summarize the project in one sentence at the beginning of your summary.* A good idea is to state the problem in the first sentence and offer a solution.
D7	False	*To get funded, you have to know a few commission members.* Usually this is not the case. If the research field is very narrow or from a small country, this may be an issue though.
D8	True	*The best way to convince the panel is to state a problem clearly and offer a solution.* In the commission meeting, there is no room for lengthy discussion, so make it easy for the commission members to get the idea of your work in a nutshell.