Grant writing – how to apply for a postdoc position

Christian Reinhardt
University Hospital Cologne, Medical Clinic I
Outline

- Outline of a few career paths
- Critical decision points
- Points to consider when choosing a postdoc position
- How to actually write a grant
- Plan your return to Germany/Europe
- What to do after the return
Everything is possible…
Critical decision points

• What is my ultimate career goal (practicing physician/scientist/industry/ ...)?
• When should I interview for a postdoc position?
• How many PIs should I interview with?
• What is the skill set/expertise that I want to get from my postdoc?
• Do I need a hands on supervisor (tenured/non-tenured)?
• Does the scientific environment of the host institution suit my needs?
• Which country/city fits my needs?
• How long should my postdoctoral training last (what should I achieve)?
• Should I do some clinical training before I leave?
• Where do I get funding?
Which points might be important

• What is my ultimate career goal (practicing physician/scientist/industry/...)?
• When should I interview for a postdoc position?
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• Do I need a hands on supervisor (tenured/non-tenured)?
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• Where do I get funding?
Four-year submission deadline following receipt of doctorate

... As a rule, proposals may only be submitted within four years after obtaining your doctorate. For licensed physicians, a maximum of six years applies...
W2 Lichtenberg professorships

... Applicants should have spent time abroad and should have earned their doctorate no longer than 5 years before the application deadline ...
Max Eder research group

... Applicants should not be older than 35 years ...
The funding strategy of the big funding institutions limits your flexibility.
How to actually write a grant?

Which factors are being considered by the DFG?
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Review criteria for research fellowships

1. What has the applicant accomplished so far in his/her career/area of research?
2. Is the applicant qualified to pursue the project based on his/her track record?
3. How do you assess the scientific originality and feasibility of the project?
4. Are the host institution and the research environment suitable?

2 out of 4 criteria are largely determined by the host institution!!!!
You will need a letter from the host institution for your application...

That makes it difficult to convince the host, as you haven’t secured funding at the time of application.

Timing is the issue!!!
How to actually write a grant?

• Introduction (background and significance)
• Preliminary data
• Specific aims
• Aim 1–4 (?)
• Literature
• Requested funding

• Appendix (CV, reference letters, acceptance letter, ...)

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Introduction I

- Write the intro in a way that the reader (expert/non-expert) thinks that your proposal is the one thing that the field needs right now!
- At the end of a perfect introduction, the reviewer should propose exactly the set of experiments that you will propose in your application.
- Do not make the reviewer work, don’t use empty words!!!!!

(other groups have shown that certain genotypes confer a similar phenotype...)
Introduction II

• Make sure that the literature is properly cited.
• Extensively mention the seminal contributions of the host.
• Make sure to cite potential reviewers.
• Ventilate the proposal with the host.
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Preliminary data

• This section differs from other grants, as you have to highlight the work of the host (and yours)
• Make sure to contact the host, in order to include unpublished material
• State how your contributions fit into the scheme, ideally your work and that of the host complement each other (highlight different technological approaches, this can help motivate your choice of host institution)
• Make extensive use of graphical elements.
How to actually write a grant?

• Introduction (background and significance)
• Preliminary data
• **Specific aims**
• Aim 1-4 (?)
• Literature
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• Appendix (CV, reference letters, acceptance letter, ...)

Specific aims

• Condense background and, most importantly, the rationale for your proposal on one page. The section re-iterates your intro and motivates your proposal.

• Convey the idea that your proposal is (largely) hypothesis driven and not merely a fishing expedition!

• Stylistic element: Spell out all the specific aims at the end. Then add one sentence, such as: the specific aims specifically test the hypotheses that 1) blablabla, 2) blablabla... Altogether, these experiments will pave the way for blablabla.
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Aims 1–4 II

• This is the center piece of your application!!!!
• Aims should be realistic (for the host institution).
• No more than 4 aims.
• Aims must not be dependent on each other, yet the must be coherent.

Aim 1: Screen
Aim 2: Hits from the screen will be used to...

Not good!
Aims 1–4 I

• Motivate each aim.
• Openly discuss the possibility of failure and present a backup strategy.
• Give the reviewers the idea that you have really thought about your proposal.
• Be very precise (give dosing details, details on number of animals, details on end points and time frames.
• Avoid repetitive elements.
Aims 1-4 III

- **Stylistic element**: for each aim write three sections:
  - Significance and rationale (just a few sentences to get the
    remind the reviewer)
  - Experimental details (longest section, be precise)
  - Expected results and potential pitfalls (clearly state the expected
    results (hypotheses) and line out a backup strategy.)
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Literature

• Cite the work of the host institution
• Cite the work of potential reviewers
• Cite original articles, rather then reviews
• Read the cited literature (skimming the abstract is not enough!!)
How to actually write a grant?

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Requested funding

- This should just be your position, travel and publication cost.
- The funding institutions expect the host to contribute bench space, bench fees, consumables and animals.
- It is useful to add one paragraph giving details regarding the contribution of the host.
- The contribution of the host should also be clearly stated in the acceptance letter.
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- Appendix (CV, reference letters, acceptance letter, …)
Appendix

- Spend some effort on your CV, this is a central piece of your application!
- Spend some effort on the reference letters (approach potential references professionally, i.e. in the first contact give all the necessary details and provide a draft letter. Don´t make them work!)
- When contacting the host institution, provide a draft version of the acceptance letter. This letter needs to convince the reviewers!
Outline your return plans

• Some funding institutions request a return plan

• Provide a rather detailed plan for your return. This should include a network of research groups and institutions, which will benefit from the expertise that you gain abroad. The network should also be designed to help you to a better start after your return! You must not return to the institution that granted your PhD. Thus, you should line out a network on a national level.
Any questions?