Grant writing – how to apply for a group leader position

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Outline

• Outline of a few career paths
• Critical decision points
• Points to consider when choosing a group leader 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/ ...)?
- How many institutions should I interview with?
- What is the skill set/expertise that I need from my scientific environment?
- Does the scientific environment of the host institution suit my needs?
- Do I need a mentor?
- Which country/city fits my needs?
- Should I do some clinical training before I launch my group?
- 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 group leader position?
• How many institutions should I interview with?
• What is the skill set/expertise that I want to get from my host institute?
• Does the scientific environment of the host institution suit my needs?
• Do I need a mentor?
• Which country/city fits my needs?
• Should I do some clinical training before I launch my group?
• 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 ...
NRW Rückkehrer Programm

... As a rule, proposals may only be submitted within six years after obtaining your doctorate. For licensed physicians, a maximum of nine years applies...
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!!! Plan at least six months after acceptance of your paper and decision on a grant.

Acceptance of the big paper
- First contact with 3-6 hosts
- Interviews and acceptance letter
- Grant writing (deadlines!!!)
- Solving of visa issues
- Postdoc
- Group leader

1 year
How to actually write a grant?

- Introduction (background and significance)
- Preliminary data
- Specific aims
- Aim 1-3/4 (?)
- Literature
- Requested funding

- Appendix (CV, reference letters, acceptance letter, ...
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Introduction I

• Highlight your own work, but put it in perspective to other peoples (reviewer’s) papers.
• 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...)

Not good!
Introduction II

• Make sure that the literature is properly cited.
• Extensively mention your seminal contributions.
• Make sure to cite potential reviewers.
• Ventilate the proposal with the host institution.
• If possible, highlight infrastructural advantages of the host institution early on.
• If possible, highlight potential local collaboration partners early on.
How to actually write a grant?

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

Preliminary data

- This is the section where you have to convince the reviewers that you are a great scientist.
- Don’t expect them to have read your fantastic papers, be detailed and precise.
- If you have unpublished work from your postdoc, mention it here and state that you can keep working on it (the postdoc advisor should mention that in his/her letter!).
- 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.
How to actually write a grant?

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Aims 1–4 I

- This is the center piece of your application!!!!
- Aims should be realistic (for the host institution >> you are not at Harvard anymore!!).
- 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 II

• 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

- Use the strengths of your host institution, get as many letters of collaboration as possible.
- Show the reviewers that you are engaged in an active exchange with the host institution.
- See how you and your proposal could fit into local consortia (SFBs, KFOs, ...)

• 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 your work extensively
- Cite the work of the host institution
- Cite the work of potential reviewers
- Cite original articles, rather than 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 be your position, personnel, consumables, equipment, animals, travel and publication cost.
- Use this unique funding mechanism to request critical equipment that is otherwise hard to get.
- It is useful to add one paragraph giving details regarding the contribution of the host.
- The same section should appear in the letters from the host institution.
- The contribution of the host should also be clearly stated in the acceptance letter.
How to actually write a grant?

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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!)
- You need one letter from you PhD- and one from the postdoc advisor.
- When contacting the host institution, provide a draft version of the acceptance letter. This letter needs to convince the reviewers!
Appendix

• The letter from the hosting institution needs to be very clear on:
  
  - Lab space
  - Contribution of personnel, equipment
  - Local collaboration partners
  - Clinical duties
  - Teaching load
  - Tenure option

They have to state that they absolutely want you!!
Outline your local networks

• 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 gained 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?