### Grant Writing

**grant applications**  
**CV**  

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### Grant proposal

**application forms**  
**CV**  

**project proposal**  
**cover letter**  

previous work: e.g. Diploma summary, certificates  
1-2 references  

*ask well in advance! – Prof. have tight schedules!*

### Before you start writing

- read exactly the guidelines and check application forms well in advance  
- make sure you have the latest versions  
- do you fulfill all the criteria?  
  - if not, don’t waste time with the proposal  
  - if you have doubts: contact the funding agency  
- keep the criteria in mind, make your proposal match them  
- find colleagues who have been successful  
  get insider information / funded proposals

### Basic questions

- what exactly is my question?  
  - how can I answer it?  
- is this question interesting? (if it isn’t, find another one)  
- is it innovative? - read relevant literature  
- what are the expected results?  
- who will be interested in the results, how far applicable are they?  
  do they crosslink to other fields?  
- who will read this?  
  - how much detail do I have to give, should I give?  
- why should this project be performed now?  
  - why has it not been done 5 years before  
  - why can’t it wait another 5 years?  
- why should you be funded for it?  
  - what makes you the best candidate?  
- is the project credible with your background?  
- is the chosen host institute optimal for it?  

**your plan, your expertise and your host need to be a credible combination**  
**be novel but do not restructure your entire profile; should be a major step forward in your development**

### Basic questions

- is the project feasible (in the limited time available)?  
  - does the complementarity of you and your host allow a quick start?  
  - can you offer a sufficient spectrum of parallel projects to allow some of them to fail?  
  - can you include an implicit or explicit risk assessment in your time plan?  

**create a combination of high risk – high yield ideas and some safety parts that may be less innovative**  

**if you can, give some preliminary data**  
(typically not needed for PhD or postdoc grants)
During writing

- be brief and keep your space allowance
- avoid redundancies, but remind reviewers of key points
- design your project as hierarchical table of contents and specify the maximum number of words for each section
- use subheadings
- use charts and diagrams
- don’t use fonts < 11
- add page numbers and your name in the header
- send the required number of copies
- send a complete application (mean 25% of applications are incomplete!), don’t send additional information

During writing

- reviewers will receive many applications, and may read them in a hurry or in bits-and-pieces; make it easily readable
- stick out with your application through nice layout (but no fancy fonts!), graphs, clear structuring by subheadings
- reviewers will not be specialists in your field, and will have Nature/Science knowledge on your topic
- be convinced you can get it, make your enthusiasm subtly visible
  (especially when you have to write about yourself, e.g. complementing your tabular CV with a text on your ‘three major accomplishments’ etc)

The project proposal

Title
Summary
Acronym, Key words
Introduction: State of the Art
(Preliminary Work)
Project Goals
Work plan (with time plan)
Feasibility of the Project
Timeliness and Innovation of the Project
Budget
Appendix

Title & Abstract

- very important
- sets the first impression
- routes the application to appropriate reviewers
  
  ► title should be descriptive, specific and appropriate
  maybe split up into a general and specific part
  
  ► abstract should be a brief, accurate description of project
  must stand on its own!
- to be understood by both experts and „generalists“
- write carefully, spend time on it, write it last
- should cover all basic points of the project
  (remind reviewers of the details when read again weeks later)

Abstract contents

should include hypotheses, objectives, approaches, research plan and significance:
- state hypotheses to be tested, give long-term objectives
- state the specific aims
- explain how the proposal links to the funding aims of the funding agency
- describe concisely the research design and methods
- tell why the proposal is unique, important, significant and worth supporting
- Don’t be longer than allowed. Be shorter if you have nothing more to say

Keywords, Acronym

- choose keywords with great care
- they will decide in which panel the proposal is reviewed
- try to cover all major topics (and methods)
- like a mini-abstract
  
  ► an Acronym is sometimes asked for
  - the Header of your application
  - will be used in all conversations with you (plus number)
  - be brief (often only 20-30 characters), general, interesting
### Introduction

- **What is known?**
- **What is not known?**
- **Why is it essential to find out?**

- set the scene for the project; introduce the reader to the topic, make clear why it is interesting (start broad, get more specific)
- let the reader know very quickly what your question is about, explain what leads you to this question
- give an overview over the history/recent work on the topic of different groups in the field, discuss controversies

- identify gaps or contradictions you want to clarify
- emphasize the importance and relevance of your proposal by bridging your hypotheses and long-term objectives
- integrate your own previous work, clearly state which work has been whose!

### Preliminary work

for PhD or postdoc grants, typically few/no preliminary data needed

- explain what your host institute has contributed to this field, state the still open questions
- state how your previous training makes you the right candidate to successfully carry out the project
- don’t only state which methods you have learned, but also add organisational skills etc
- list your publications and manuscripts submitted or accepted (but not > 1 in preparation)

### Project goals

- give a very short overview over the questions of your proposal
- list 1-3 questions, which serve as a guideline for your extensive work plan

### Work plan

*research design and methods*

(likely the longest part of your application)

- give detailed information on how you want to answer the outlined questions
- explain your methods
- make clear that the project can be performed at the host institute given the preliminary work and the funding
- address the outlined questions in the same order as above (this should be a logical or chronological order)
- use an easy to follow numbering system and subheadings
- distinguish clearly between overall research design and specific methods

- specify which methods are already established an which will be new
- for new methods: explain why they are better than existing methods, and why they are feasible
- reference but do not describe well known techniques
- don’t repeat identical procedures that apply to > 1 aim
- discuss relevant control experiments
- discuss potential difficulties and alternative strategies
- document collaborations with local and abroad colleagues
- give a tentative time plan
### Time plan

- divide the funded time into 6-12 months periods
- explain which goals you want to have finished for each
- be brief and maybe show this in a table or diagram
- don’t forget that you will want to present your data on conferences or workshops, add some specific ones
- add time for writing publications and for new applications in the last year
- try to think in publishable papers: which project parts can be finished within a year?

### Feasibility

- know how and technical infrastructure & backup plan
  - make clear that the combination of your own skills and the know how at the host institute make success of the project likely
  - state who and how many people work there
  - also explain the role of collaboration partners
  - quality of the infrastructure: show that basic instrumental requirements are fulfilled at the host institute; list important machines

### Timeliness and Innovation

- summarize the most important expected novel results that you will gain by performing this project
- why is this an original and innovative approach?: clearly state how this study advances the field
- what is its interdisciplinary relevance?
- how does it benefit your own career? how can you benefit both scientifically and personally from the project?
- what other training effects will you gain? (e.g. paper writing, organisational skills, time scheduling etc)
  ![show that you are far-sighted and that this project will be an important step for your career development](image)

### Budget

- How much money do you need?
- How much money can you ask for?
- What is likely / unlikely to be funded?
  - check the guidelines carefully
  - find out the average funding level for the agency
  - find colleagues / proposals that have been successful

### Grant applications

- grant applications contain many parts that should all come together nicely in the end: think of them separately but keep the big picture
- start writing well in time:
  - 2 months for a PhD grant – talk to your supervisor when (s)he is busy
  - 3-4 months for a postdoc grant – visit your future boss even before that
- check application deadlines if possible 1 year in advance
  - note that often only 1 or 2 deadlines per year
- choose the “perfect timing” for application
  - note that the chances for a postdoc grant are much greater
  - when you have a paper published
  - when your PhD is finished or finished within 2-3 months

### Application for position

CV

- 2 referees ——— give full contact details
- application letter — explain how you know them

- address your potential future boss formally (with title)
- avoid spelling mistakes
- respond in detail to the position and suggested topic!
- make clear why you are interested and why the other should be interested in inviting you
- don’t make too many own demands at that stage

many candidates may apply, so don’t expect an immediate confirmation of receipt
CV

Personal data:
- name
- title
- birth date and place
- gender
- nationality
- marital & family status
- address

*for education and publications, start with the most recent*
- your primary school data are of less significance than your Phd

Current position:
- what you do and since when

Education:
- Dissertation
- University Studies: BSc, MSc
- (military or civil service)
- High School
give: dates to the month supervisor, institute & topic grades!

The more advanced you get, the more of the early information on school details etc you can skip

Academic Activities
- Participation of workshops and conferences
give: dates to the month poster - talk title
- Practica & work next to your studies
- organisation of workshops or meetings
- (co-)supervision of e.g. Diploma thesis or practical students
- teaching activities

Research honours and awards:
- prizes in school, MSc thesis etc...
- grants received (travel grants, PhD fellowships)
give date received institution from which received amount of money received

Memberships

Additional skills
- Languages
- Driving Licence
- Diving Licence ...

Non-scientific engagement & hobbies – if you want

Publication List
often integrated into CV
- Papers in peer reviewed journals
separate published papers manuscripts in press manuscripts in revision / in review manuscripts in prep. (not > 2)!
- other publications (e.g. to general public)

City, date signature

• find a nice format
- add something special (many people may apply to this position)
- but don’t overdo it

• use your space efficiently; don’t press too much information into too little space
• show consistent activities and outputs

avoid gaps (>2months)!
- if you travelled around the world after school, write it

be consistent in CV and other application parts!
Grant Writing

The Funding Agency Perspective

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To sum up so far...

Applying for funding is a fundamental part of any scientific career

Proposal writing is a keyskill

Your PhD is a project

Do not be scared of failing and keep reapplying

The (bumpy) road to funding

Example:

DOC Fellowship, ÖAW – Austrian Academy of Science:

Selection process:

- Deadline 1. May
- 1. Eligibility check
- 2. Internal review by ÖAW-committee (end of June)
- 3. External review (1+ reviewer)
- Decision by end of October
- 1.1.2015 start fellowship

Take home

- Plan in advance, many programs have only one call a year.
- Set up a checklist: Signatures and Recommendations need time
- Have your personal documents together (Certificates, Authorizations etc.)
- Check who will evaluate your proposal, try to be understandable also to a broader audience
- Plan time for the submission itself (formatting, printing etc.)
The right funding scheme

Make sure your project fits its mission and the stated purpose of the funding program. If your project is not a good fit, your proposal has little chance of being funded.

- Read the guidelines
- Talk to the Grant Office
- Contact the Funding Agency

Examples of program goals

- **DOC Fellowship**
  Purpose: To enable young, excellent doctoral candidates from all disciplines to carry out their dissertation project within a definable period of time

- **FWF Lise Meitner Program**
  Purpose: Strengthening of the quality and the scientific know-how of the Austrian scientific community; Creation of International contacts

- **Marie Skłodowska Curie Actions (MSCA)**
  Purpose: The objective of the MSCA is to support the career development and training of researchers – with a focus on innovation skills – in all scientific disciplines through worldwide and cross-sector mobility.

- **Human Frontiers Science Program (HFSP)**
  Purpose: Long-Term Fellowships (LTF) are for applicants with a Ph.D. in a biological discipline, who will broaden their expertise by proposing a project in the life sciences which is significantly different from their previous Ph.D. or postdoctoral work.

Selection Criteria

**DOC Fellowship**

- Quality of the applicant
- Quality of the proposed project
  - Innovativeness and relevance of research project
  - Research design
  - Appropriate methodology
  - Work and time plan
  - Achievable?
- Quality of the host

**Boehringer Ingelheim Fonds PhD fellowships**

http://www.bifonds.de/fellowships-grants/phd-fellowships.html

Purpose

To promote basic research in biomedicine by providing the best young, up-and-coming scientists with comprehensive support during their PhD phase.

Selection Criteria

- the applicant's achievements to date (grades and curriculum vitae);
- the scientific quality, e.g., originality and inventiveness
- the scientific standard of the laboratories in which the project is to be pursued

**Marie Skłodowska Curie Actions**


Criteria:

- Excellence
- Impact
- Implementation

BIF: The three criteria in detail

**Applicant's achievements**

What personal qualities has the applicant demonstrated during his/her training: top grades, talent and inquisitiveness, versatility and creativity, determination and motivation, diligence and perseverance? Has the applicant shown mobility or has he/ she been rather settled? In the latter case, did he/she have sound reasons for not having changed country, university and/or supervisor? Is he/she capable of independent research? Does the applicant have a wide variety of techniques at his/her disposal?

**Quality of PhD project**

Is the project imaginative and promising? Is it liable to yield new insights or is it a descriptive, industrious but uninspiring piece of work? Is the current state of knowledge correctly described and adequately documented? Are the methods of investigation state-of-the-art and sophisticated? Is the work schedule logical and realistic for a PhD project of about 3 years? Is the project really a research project in its own right or rather a subunit of a collaborative effort?

**Standard of the laboratories**

Does the laboratory in which he/she wishes to pursue the PhD project have first-class equipment and use state-of-the-art techniques? Has the laboratory made significant contributions to the respective scientific field and does it have an international reputation in this field? In other words, is the laboratory one of the most suitable places worldwide for the project in question?
Resubmissions

So you didn’t get funded the first time.

- Really read the reviews
- Discuss with your PO
- Respond/answer their critiques
- You will get some of the same reviewers. The first thing they will do is look at the previous review and see if the issues have been resolved.

Before you start...

The Basics:
- Work on your publication record
- Have a very good research project
  
  Do not look for the “niche”. Most likely you just will end up in a spot nobody else is interested in.

The Rules:
- Check eligibility criteria
- Ask your supervisor
- Run each and every application via the GO!

Carefully choose which grant you want to apply for!

Help is available:
IST Grant Office
grants@ist.ac.at