

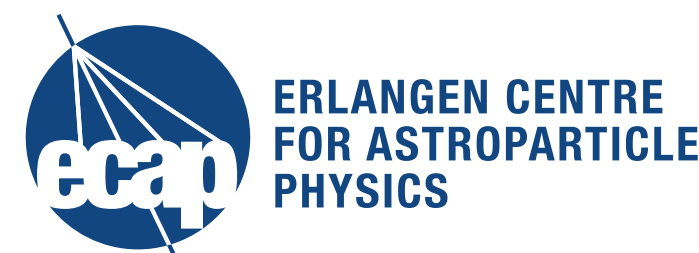
Proposal Writing

Or my 2 cents about it

Anna Nelles & other seniors



HELMHOLTZ RESEARCH FOR
GRAND CHALLENGES



ERLANGEN CENTRE
FOR ASTROPARTICLE
PHYSICS



Friedrich-Alexander-Universität
Erlangen-Nürnberg

The nominal steps

- 2004 - 2010: Physics at RWTH Aachen, Germany (Diploma)
- 2008 - 2012: Business and Economics at RWTH Aachen (MBA)
- 2010 - 2014: PhD in Astrophysics at Radboud University Nijmegen, The Netherlands
- 2015 - 2018: Postdoc and DFG Fellow at University of California, Irvine, USA
- 2018 - 2019: Emmy-Noether Group Leader, HU Berlin, Germany
- Since 2019: Professor of Astroparticle Physics (Erlangen) and Staff scientist at DESY Zeuthen
- *Served in MANY university bodies as student, PhD, post-doc rep*
- *Married since 2015, two children (4 and 7 years old)*



A couple of warm up questions

This workshop is supposed to be a workshop and interactive

- Who has written a proposal before?
- Who has won a prize that they had to nominate themselves for?
- Who has ever prepared an elevator pitch about themselves?
- Who has ever gone up to someone they didn't know and introduced themselves as physicist?
- Who has heard the question “so what is this good for that you do?”
- Who has convinced someone to study physics (like in an outreach session)?

Let's face it

No one will have a career in science without successfully securing funding

- Why?
 - Research institutions have a hole in the budget
 - Universities compete for money / people / prestige / ideas
 - Third party funding is needed to get large projects going
 - For every funded grant, the university gets 'overheads' that finance other things
 - Big projects with publicity are good for prestige / ...
 - Hiring people is one of the largest expenses
 - O(80k) per year for PhD student / post-doc
 - O(150k) (or more) per year for Professor + pension + for life + ...

In order to get funded, you need funding

Start early, start young

- Why?
- No one wants to be wrong, so if you were funded before, you are probably good
- Things like travel grants, scholarships to go abroad are much easier to get
- Build expertise in writing, thinking about ideas, defending proposals, and presenting yourself
- If you are a senior post-doc and haven't gotten funding people will start to get suspicious
- There is always a section on each application form for 'funding' and you don't want that empty

How does a proposal process typically work?

Unfortunately, every one is different — double-check your funding line

- May or may not involve:
 - **Expert reviewers:**
 - Experts in your field who review your proposal for feasibility and science content (e.g. first step of DFG proposals); typically knows the experiment you work on and the details
 - **Review panel:**
 - Experts in your broader field, e.g. astronomy (in general) or particle physics (in general); understands the context of your research, but probably not the technical details
 - **General panel:**
 - Experts of all sciences or even politics; will not know the technical details and sometimes not even the scientific context, looks for broader impact, uniqueness, your ability to convey your science, ...
- **Some combination of all of the above**
 - **All of these require very different proposals!**

How does a proposal process typically work?

Unfortunately, every one is different — double-check your funding line

- **There are also many additional constraint to keep in mind**
 - Can you defend your proposal?
 - *First a written and then a presentation round, will you get the feedback before the presentation*
 - Can you submit the proposal again?
 - *Some grants come with exclusion rules (if worse grade, banned from resubmitting)*
 - *Some grants allow resubmission and provide the review reports*
 - Is there a fixed deadline or a running deadline?
 - *A deadline may lead to a non-perfect grant, but may also help you finish the application*
 - *With a running deadline it may make sense to delay, e.g. wait for a paper to be published*

How does one even start to write a proposal?

There is no golden recipe to writing a proposal, otherwise everyone would have it, so here is my take

- An outstanding proposal can be summarized in 5 sentences — ideally even in one
- You need to think about the one unique selling point that your proposal has
 - Why you? (*Why not someone else*)
 - Why this? (*and not solving the energy problem of the world?*)
 - Why now? (*What will we lose if not now?*)
- **Easier said than done**
- Even a fantastic proposal still only has a < 1 chance of being funded
 - Reviewers may have prior knowledge: *“XYZ is a dumb project, no money should go there.”*
 - Your tone may just not resonate with the reviewer: *“This person sounds arrogant.”*
 - Panel may have funded another ‘similar’ one already: *“It just doesn’t fit the program”*
 - ...

Proposal Workshop

Write your own proposal

- Pick either a **topic** you want to work on, or one you currently work on (you are allowed to pitch your thesis topic as proposal)
- Write the summary, **'the elevator pitch' targeted at an astroparticle review panel**
(assume that people have a similar background as everyone here, but may not be from your exact field)
*(roughly **30 minutes**, but take as much time as you need)*
- Find partners to review each other's proposals
 - someone who is from your field and improve if necessary (**30 minutes**)
 - someone who is NOT from your field and improve if necessary (**30 minutes**)
- We will break for a Coffee Break 10:45 - 11:15
- After everyone is finished:
 - Present/read your proposal in front of everyone
 - Seniors in the room will provide feedback and act as a review panel

What did you learn from Proposal Workshop?

What open question are still there?

Today: CV

What is the purpose of a CV, what do you think?

CV workshop

EVERY proposal needs a targeted CV

- A pretty template counts, but not always
- How to make sure your CV works?
 - Adjusted to the focus of the proposal AND the focus of the call
 - Annoyingly all have a different template
- Basic structure can always be the same, but needs sharpening
- Never leave a field empty
- Don't be afraid to name small things, but don't deviate from the truth

CV Guidelines

Some programs give guidelines about the structure, some don't

- A typical one — what would one put?
 - Personal Details
 - Education
 - Current position
 - Previous positions
 - Fellowships and Awards
 - Teaching activities
 - Academic Service
 - 5 most relevant publications
- Take 30 minutes to write your academic CV according to the DFG template
- https://www.dfg.de/formulare/53_200_elan/