

THE UNIVERSITY *of York*



General advice on crafting proposals

Questions to ask and what to avoid

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With acknowledgements to Andreas Zeller, Alan Bundy and Simon-Peyton Jones





1. Why this problem and why now?

We addressed this earlier. Background and related work.

2. Why me?

Track record - we addressed this earlier.

3. Why this proposal.

We will now concentrate on this one.



But first, why do academics find writing proposals so hard?



- We are trained in the scientific method
 - more at home with communicating authoritatively about technically resolvable/provable matters than persuading people to speculatively stump up funding.
 - A grant proposal is not a research paper.
- We usually communicate with fellow domain experts, whilst proposals also have a more general audience.
 - Real need to put yourself in others shoes.
 - You often do this (or should) when you teach.



- We often regard “selling” as a grubby concept.
- When you hear the term “selling”, try mentally replacing its meaning with
 - “writing a persuasive evidenced based case that renders apparent to a specialist and more general scientific audience, why the problem needs urgent attention, why what you propose is an ambitious assault on this problem with great potential for academic influence and/or wider societal impact, and why you are the ideal person or team to do it”
 - There, feels **SO MUCH BETTER**, doesn't it?



- You are writing against template constraints which you often resent
 - Like publication page lengths (which you live with)
 - I like page length restrictions – it's a challenge to get in all that is needed in an intelligible fashion.
- Increasingly living in an era of Research Council **research priorities**, and we often don't appreciate this (in more than one sense of the word).
- We seek control and explanations for everything - proposal process is a (biased) stochastic process.



- It's so hard to not to take rejection personally. After all:
 - It was **MY PROPOSAL** written on **MY FAVOURITE OPEN PROBLEM** and written **BY ME...**
 - **THEY REJECTED IT. IT WAS A FAILURE.**
- **THEREFORE....**
 - **THEY REJECTED ME. I AM A FAILURE.**
 - **I AM GOING TO HIDE FOR A FEW YEARS BEFORE TRYING AGAIN. I DON'T WANT TO GO TO WORK.**
- Come to the next writing with a somewhat negative attitude. And two unsuccessful proposals breed gloom....
- You must prepare assuming you can be funded.



- Academics can be highly critical and indeed cynical about the process
 - “It’s a lottery”
 - No it isn’t – and if you did ANY serious statistical analysis I am sure this hypothesis would fail. (And I am a postgraduate statistician).
 - Or there are some (quite a few) **mind-blowingly** lucky people.
 - Aim to be the beneficiaries of bias by crafting your proposals.
 - Do not aim to succeed by buying more “tickets”, i.e. spamming the EPSRC with proposals. It won’t work.



- The motivation for getting in that grant proposal may be coming from within the organisation and not primarily from yourself.
- Proposal writing is part of the job but it also competes for time with many other things
 - Teaching course prep, admin, pastoral support, current supervision, recruitment, conf & journal papers, ...
 - We typically live in a “**Climate of More**” which often equates to DO MORE WORK
 - Really want more success, a very different thing.



- Those with significant overseas research proposal assessment experience will confirm that the EPSRC process is actually very lightweight compared with many other funding councils internationally.
 - For example, 100+ page NFS proposals.
 - Reason to be cheerful!



People submit grant proposals to funders all over the world.

There is much advice on the web.

It's pretty consistent on the basics.



Advice based closely (often verbatim) on blog by Andreas Zeller

<http://andreas-zeller.blogspot.co.uk/2013/02/twelve-tips-on-how-to-prepare-erc-grant.html>

I have changed ERC to EPSRC and made a few minor tweaks - JAC



- **Understand the process.** Look at the info on the EPSRC website. There is a lot of it but it doesn't change that often so you will benefit from detailed scrutiny, for general and specific schemes (e.g. First Grant).
- **Plan time for proposal development.** Most activities benefit from exclusive concentrated attention.
 - This isn't just "writing" the proposal. This is developing it. Ideas precede text (though writing may cause your ideas to change).
 - **Perhaps reserve several weeks for preparation.** You will need lots of time for collecting data, shaping the story, and checking the references. Let your friends and family know when you'll be back.



- **Get plenty of feedback.** Your proposal will first be reviewed from people in your discipline, but not necessarily from people in your speciality.
- It may also be that your proposal will have to stand against proposals from totally different disciplines (*or within ICT at any rate*). Hence, your story must appeal to readers *no matter what discipline and speciality*.
- Have your proposal reviewed by someone in your research group and someone outside it (at least).



- Zoeller's blog article indicates that his ERC proposal was reviewed by 12 internal and 12 external people, and that he used every possible invited talk to present some sketches of the main ideas.
 - Aside: The (successful) EPSRC DAASE Programme grant (£6.7m) had over 30 people spending a few hours on it each in a room plus significant investigative team review.
 - Cash prize also for the person finding the most grammar mistakes!



- **Rely on local expertise.** Your Departments may well have substantial success in getting EPSRC grants. Ask those who have (had) EPSRC grants to review for you.
- **(JAC) Know your own processes.** Find out what your internal processes and deadlines are. Things can come unstuck by last-minute engagement.
 - If you go to the wire, will there actually be someone around on Wednesday at 1600 to authorise further progress through the JES system when you press the button?
 - It has gained ethical approval, hasn't it?



- **Sell yourself.** What you need is *irrefutable evidence* for *impact and excellence*.
 - That is, *facts* on awards, services, papers, talks, students, tools; lasting impact in academia and industry; your quality as networker and advisor; and, last but not least, your *ability to shape and create research fields*.
- Play by numbers: acceptance rates, citations, downloads. Check the list of past grantees, their numbers and achievements to get an idea of what you're up against.
- **Work hard.** In the end, it will have to be clear that you are the only person on earth who can save the world from this terrible, important problem.



- **Have a clear structure and plan.** You're a seasoned researcher, so you know how to organize things, don't you?
- Now all you need to do is to put this in writing: tasks, dependences, milestones, evaluations, and measurable success criteria.
- You can deviate later from plan if you can justify it. Not a contract. EPSRC funds are flexible in his regard.



- **Polish. Polish. Polish.** And polish again. With an EPSRC grant, you're applying for some of the classiest funding one can get in the UK. Do your homework.
- Aside – this is an area where expending effort is really justified (see comments earlier on “climate of more”)
- **NEW:** Make friends: offer to review proposals being developed in your Department.



Advice on Proposal Writing from Simon Peyton Jones and Alan Bundy

I have made a few alterations and done some editing. Original can be found at:

<http://research.microsoft.com/en-us/um/people/simonpj/papers/proposal.html>



- Your case for support will, with luck, be read by one or two experts in your field. But the programme manager, and most members of the panel that judges your proposal against others, won't be expert. You must, must, must write your proposal for their benefit too.
- Remember that programme managers and panel members see tens or hundreds of cases for support, so you have one minute or less to grab your reader's attention.
- Ask lots of people to help you improve your proposal.
- Make sure that the first page acts as a stand-alone summary of the entire proposal.



- *Does the proposal address a well-formulated problem?*
- *Is it a research problem, or is it just a routine application of known techniques?*
- *Is it an important problem, whose solution will have useful effects?*
- *Is special funding necessary to solve the problem, or to solve it quickly enough, or could it be solved using the normal resources of a well-found laboratory?*
- *Do the proposers have a good idea on which to base their work?*
- *Does the proposal explain clearly what work will be done?*
- Does it explain what results are expected and how they will be evaluated?
- How would it be possible to judge whether the work was successful?



- *Is there evidence that the proposers know about the work that others have done on the problem?*
- *Do the proposers have a good track record, both of doing good research and of publishing it?*



Why Proposals Fail

- *It is not clear what question is being addressed by the proposal.*
- In particular, it is not clear what the outcome of the research might be, or what would constitute success or failure. It is vital to discuss what contribution to human knowledge would be made by the research.
- *The question being addressed is woolly or ill-formed.*
- *It is not clear why the question is worth addressing.*
- *The proposal is just a routine application of known techniques*



Why Proposals Fail

- *Industry ought to be doing it instead.*
- *There is no evidence that the proposers will succeed where others have failed.*
- *A new idea is claimed but insufficient technical details of the idea are given for the committee to be able to judge whether it looks promising.*
- *The proposers seem unaware of related research.*
- *The proposed research has already been done - or appears to have been done.*
- *The proposers seem to be attempting too much for the funding requested and time-scale envisaged.*
- *The proposal is too expensive for the probable gain.*
- *The proposers institution should be funding it.*





And nearly finally (for today)

Heilmeier's Catechism

(from Wikipedia page on George Heilmeier)



A set of questions credited to Heilmeier that anyone proposing a research project or product development effort should be able to answer.

- What are you trying to do? Articulate your objectives using absolutely no jargon.
- How is it done today, and what are the limits of current practice?
- What's new in your approach and why do you think it will be successful?
- Who cares?



- If you're successful, what difference will it make?
- What are the risks and the payoffs?
- How much will it cost?
- How long will it take?
- What are the midterm and final "exams" to check for success?



- You will have noticed that there is a lot in common with the advice given earlier between Zoeller and Simon Peyton Jones and Alan Bundy (and many others), though the expression may differ.
- Two major points:
 - Clarity – of aims, objectives, who are the beneficiaries, why the programme of work will deliver, what is envisaged etc. And also of presentation.
 - Get your work reviewed and be prepared to craft the proposal.
 - Plan time for doing it. It is a non-trivial task.