How to write an effective research proposal

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Put yourself in their shoes

- You are a busy academic
- You are on the panel reviewing grant proposals for funding totaling $1 million
- You have 50 proposals to read each 20 pages long
- Collectively the amount requested totals $5million
- What would you do?

Questions?

- Form groups of 2
- Work with your partner to identify the questions you want answered about proposal writing
- Write them on cards for consideration at the end of this workshop

Why do you need $?

- Base funding project . From your college
- Extras funding project √
- Attend conference √ √
- CV√

Make sure your proposal is a Good Fit: What constitutes a Good Fit?

- Funding body/scheme aims, objectives and selection criteria match your field of research and level of attainment

- You, and your project, are eligible

- The grant timings – submission / assessment / announcement / grant period – are compatible with your needs

- You are able to deal with the level of complexity of the application in the time available

Evaluation of Fitness

- Read the funding body's aims and objectives
- Read the scheme's guidelines and/or funding rules
- Check out the scheme's recent awards:
  - funding body website
    - names, levels and institutions of grantees
      - look up their CVs online
    - amounts and terms funded
    - project titles (and abstracts)
  - Research Office
    - can tell you who has been successful at JCU, success rates, relative levels of successfuls/unsuccessfuls, etc
- Email and ask the scheme/program officer

Guidelines & Funding Rules

- Organisation and scheme objectives
  - Does the field of research fit?
    - e.g. if the scheme funds "clinical research into heart disease" you're probably wasting your time applying with a population health or social sciences project
  - Industry partnerships
    - if required, you almost certainly must already have it!

- Eligibility rules
  - stage of career -are graduate students eligible?
  - citizenship / residency

Find out

- Type of people who will judge your proposal
  - Researchers /academics
  - Stakeholders
    - Industry
    - Government
    - Lay people
  - Mixture of the above
- Whether your proposal will be peer-reviewed
- Assessment criteria and weighting

Pre-proposals and proposals

- Pre-proposal/Expression of Interest
  - Brief two-page overview of proposal
  - Sometimes requested as a screening device
- Full proposal
  - Complete proposal on which assessment is made

Read the Guidelines

- Follow the Guidelines

  - Keep guidelines with you when writing, keep referring to them

  - Do not think that the over-worked and tired reviewer will be so impressed by your science that s/he will ignore your display of rebellion
    - s/he will be concerned to be fair to applicants who stick with the rules
    - s/he will think you're incapable of managing a grant – a sloppy application = an applicant who does sloppy research

Customise your proposal to the guidelines

- Guidelines differ from granting body to granting body.

- Guidelines have been set for a reason and they must be strictly adhered to prevent your proposal from being rendered ineligible

Guidelines often include seemingly arcane instructions

- Font size e.g. Arial 12 point
- Margin limitations e.g. 2cm
- Page limits
- Sign off authorities e.g. DVC Research

Don't give the granting body an easy excuse to exclude your proposal

If you are short of space and the guidelines allow it - try Arial Narrow

Funding agencies want a high likelihood of bangs for their buck!!!!

The track record of the Chief Investigator is an important determinant of a proposal's funding success

Relative importance of track record and research plan

Eminence of researcher

You are here

Importance of project plan

A good strategy is to target funding sources which explicitly support graduate students and/or early career researchers

	Confirmation of Candidature		
Audience	Chair of Candidature Committee, Independent Academic, Advisory Panel		
Maximum funding	Not specified		
Major criterion for success	Likelihood of project leading to successful completion of your degree		

	Confirmation of Candidature	College competitive scheme for HDRs	
Audience	Chair of Candidature Committee, Independent Academic, Advisory Panel	College research committee	
Maximum funding	Not specified	Typically $3000	
Major criterion for success	Likelihood of project leading to successful completion of your degree	Capacity to add to JCU's Research Profile	

	Confirmation of Candidature	College competitive scheme for HDRS	Advance Qld
Audience	Chair of Candidature Committee, Independent Academic, Advisory Panel	College research committee	Bureaucrats in Brisbane
Maximum funding	Not specified	Typically $3000	$45000 over 3 years
Major criterion for success	Likelihood of project leading to successful completion of your degree	Capacity to add to JCU's Research Profile	Complies with Queensland Science and Research Priorities

Liaise with stakeholders if required

- Some granting schemes require you to consult with stakeholders to ensure your research is relevant to their needs, to obtain funding (cash or inkind). or a letter of support

- Such consultation takes time and should be initiated months before the proposal is due

- Remember your priorities and timeline may conflict with theirs

- Ask your advisors to help you- if they don't have the contacts look for another scheme

Getting the attention of the readers

- Title of study

- Summary written for a lay reader

- **Attention getting – interesting**
- **Memorable**
- **Uncontroversial 'Studies of social minority groups in Paris' vs 'Gay Paris'**
- **Clear**
- **Easily understood by intelligent professional or lay reader**
- **Avoid jargon**
- **Try to incorporate the 'wow' factor**

Objectives of study

- Clearly state the objectives of your study
- Be outcome focused

Be clear about the difference between an outcome and an output

The context of your proposal- depends on the audience

Why don't all animals occur everywhere? : ....

Generic literature, question and interest

Confirmation of candidature

Spatial diversity in the thermal tolerance of coral reef fish larvae: relevance to marine planning

Specific literature (not too much), question and interest

Government agency

Background and Significance

- Background and rationale for your project

- Why your proposed research is significant and needs to be done
- Invalid reasons
  - *Its never been done,*
  - *Nothing is known*
- Theoretical framework if applicable
- Tailor level of scholarship to audience

Research Plan, Methods and Techniques

- Outline your plan for collecting and analysing data in enough detail for it to be convincing
  - What ?
  - Where ?
  - How ?
  - How many ?
  - Why ?

Good experimental and sampling designs are important

  - Statistical techniques if appropriate
  - If there are likely to be problems and challenges identify them and what you plan to do about them – don't leave the reader wondering !!!

Ensure your research design will enable you to answer your research questions – link them explicitly

- Matters to address in proposal:
  - Target population
  - How sampled –qualitative study or quantitative
  - Sample size
  - Potential confounding factors
  - What variables- types, factors, response
  - Assumptions
  - References to intended methods
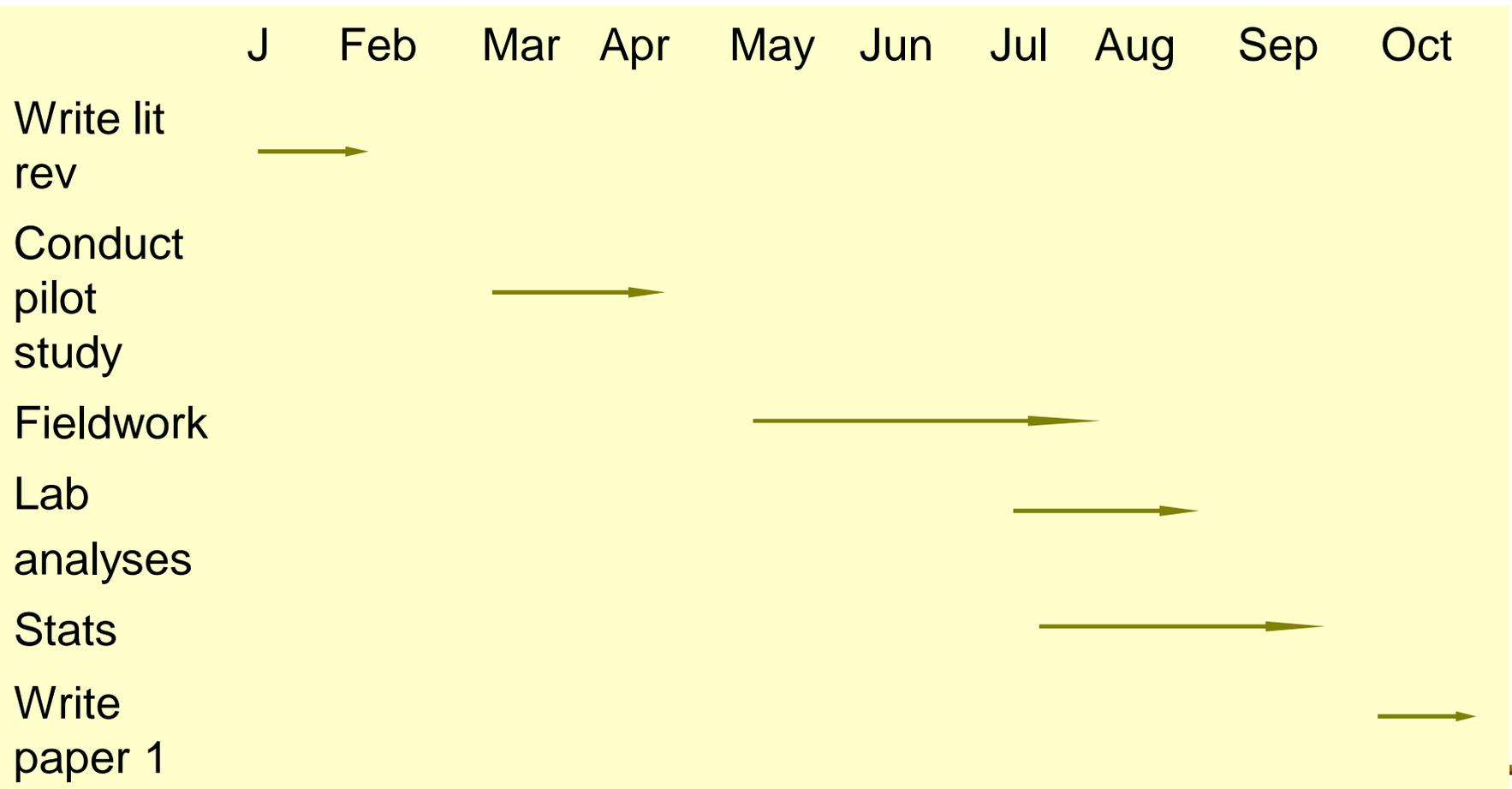 - Preferably in one place to facilitate checking

Timetable

- Convince the reader that you can do the job on time
- Use a Gantt Chart
- Software on internet

Example of Ghant chart

	J	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Write lit rev	→									
Conduct pilot study			→							
Fieldwork					→					
Lab analyses							→			
Stats								→		
Write paper 1										→

Budget Justification

- The same order of each item requested in the budget page/table should be maintained within the budget justification section

- This allows an assessor to quickly and easily match the amount requested in the budget page/table with the justification.

The Budget Justification is often done poorly

An example of an inadequate personnel budget justification

Funding is required for three trips of fieldwork at Lizard Island at $5000 per trip.

Why would this be unconvincing to a funding panel ?

An example of a good personnel budget justification

- Travel funding is required for three trips to Lizard Island research station to enable my dive buddy and me to catch the lion fish required for my laboratory work on the effect of rising sea temperatures on the spawning of lion fish in the AIMS SeaSim. I need to make three separate field trips as the maximum longevity of zebra fish in captivity is 5 months. The budget assuming economy airfares from Cairns to Lizard Island, self-catering based on food shipped on the barge from Cairns and accommodation at the research station at student rates. I need to bring my own dive buddy to comply with the JCU riskware for research at Lizard Island.

Why would this version be more acceptable to a review panel?

Other matters to be considered in a budget / budget justification

EQUIPMENT – (generally individual items costing over $1000 each) – why do you need the piece of equipment and what it will be used for. Some funding bodies ask for a quote to be attached – if they don't; quote the supplier's name

MAINTENANCE – (generally individual items costing under $1000 each) –why do you need the item and what will it be used for.
•If you have to use an expensive option say why.
•Be wary of asking for 'basic equipment' e.g. computers

TRAVEL – quote actual costs of budget travel. Tell the funding body the travel departure and the destination, the number of trips required and why and purpose of the travel.

Overheads

OVERHEADS - Overhead costs are designed to cover the real infrastructure costs of the University – library, equipment, administration.

Overheads for grant applications must be included unless the funding body is registered on the Australian Competitive Granting Register (ACGR) or the guidelines indicate that overheads will not be paid.

The university has the potential to waive overheads on research student projects, however this is not an automatic right and a formal request needs to be made through the Research Office and your College

Time required

- Writing proposals is time consuming

- Allow about as much time as you would to write a research paper of the same length

- Ask you advisors and an intelligent lay-person to read your proposal

- Meet the Research Office deadlines
  - Remember
    - Your proposal may be one of many to be checked by the Research Office to meet the same external deadline
    - Professional checking of a proposal is time-consuming but can make all the difference

Where to look for funds?

Subscribe to Research Professional

https://www.jcu.edu.au/research-services/grants/funding-opportunities-databases/research-professional

Contact: Research Office annette.ryan@jcu.edu.au

Ask your Advisory Panel

Selling Yourself

- Be positive, enthusiastic, confident.

- Don't complain

- Use impersonal statements of fact.

- Don't overstate your case.

- Don't be arrogant.

Selling your Project - Clarity

- Write a reviewer-friendly application
  - they'll be reading 100s in their evenings or weekends

- Do not assume that your reviewer is an expert in your field of expertise
  - indeed: assume that your reviewer is **not**
  - do not use acronyms without definitions
  - avoid technical jargon and complexity

- Write the abstract/summary in clear lay terms
  - run it past colleagues who are not specialists in your field

Common Errors to Avoid

- The proposal is unrealistically ambitious. There are no clearly defined priorities and the timetable is unrealistic, with no sense of what can realistically be accomplished during the project.

- The literature and background reviews are uncritical.

- There are no results of pilot studies or other preliminary data.

- The budget is unrealistic or inadequately justified

- Failure to provide a rejoinder to reviewers' comments or scores, even if they are positive

- Assuming that high reviewers' scores mean you have got the grant

Grantspersonship

- Essential skill for a research professional
- Often a job pre-requisite
- Requires practice and mentoring
- To conduct research in most disciplines you need more than a good idea and good luck
  - Professional polished proposal
  - Track record

Consideration of questions

Group work

- Divide into groups of 2 –preferably with someone from a totally different research area
- Tell your partner what your research is about (10 minutes)
- Each participant will be invited to introduce their partner and summarise their research to their group in 50 words or less:
    - What are they doing?
    - Why are they doing it?
    - What do they hope to find out?