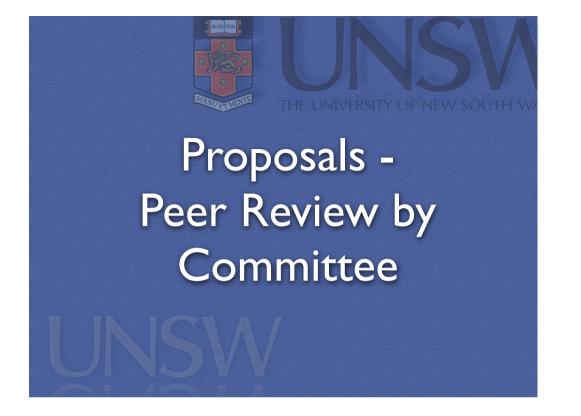# Proposals

In an ideal world, we'd have our bids for resources adjudged by some sort of ideal "Deep Thought" style ultimate computer, which would be able to distill the essential essence and excellence of your research ideas out of your proposal …. It would know ALL the background and context about everything …. it wold be able to see through your poor writing, spelling errors and poorly written narrative …. to work out the ultimately perfect way to allocate limited reosurces ….
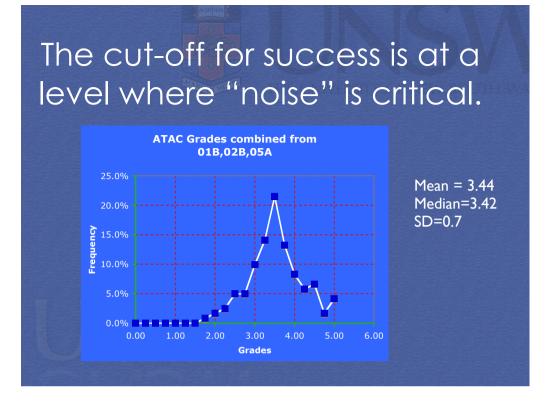
But we don't have that … we have ...

Proposals - Peer Review by Committee

The best system we have come up with is peer review by committee … a group of hopefully well informed peers examines your proposal, ranks it against other proposals, and then allocates resources to the highest ranked proposals.

Now, as well all know, this process is NOT perfect, and there is a tendency to cynically treat the whole process as either a lottery, or as fundamentally flawed and/or fixed…..

I want to encourage you to NOT let that knowledge impact on how you write ..

The cut-off for success is at a level where "noise" is critical.

Its an imperfect process .... every reader will have their own distribution function. Its a relative process.

Worth nothing a few points about this .....only top ~10% of proposals are 'immune' to measurement uncertainty. For everyone else ... you are battling noise. You are battling the time, background etc of the reader.

Everything you do to improve clarity, ease of understanding, professionalism, etc of your proposal will help push towards being over the line.

Take the process seriously

- Everything you can do to give your proposal a broader context, make it easier to read, more enjoyable, more clear, … all will help your chances

What should a proposal look like?

- Should have a good, readable "Executive Summary" that sets the research in context, sets out the big issues in a field, says what you will do, and how the results from that will address the big issues.

- Should have a well set out background that expands on the context and big questions in the field.

- Should clearly explain why the observations you propose are critical for answering those questions

I feel a bit odd giving hints on writing proposals for ALMA – first because I haven't read a radio proposal in more than 20 years ….
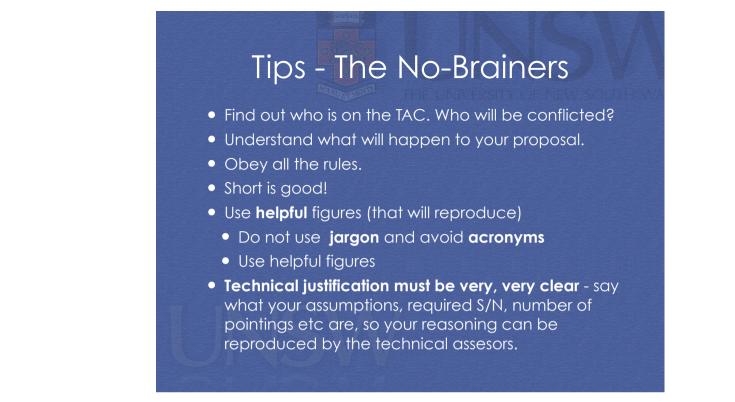
And as this is a new facility, with a new set of TACS, and as such there is not yet a'corporate' feel for what a successful proposal will look like …. nonetheless ...

What is clear that ALMA is likely to be more in the factor of 5–10 oversubscription regime, than the current factor of less than 2 regime of current Australia radio telescopes.

So my recommendations are based on what I have generally found to be successful approaches that work for optical/infrared proposals, ARC proposals, etc (which I have read a lot of)..

What should a proposal look like?

- Should clearly demonstrate the observations / research is technically feasible, that the time / resources requested are appropriate

- Should clearly demonstrate that your team will be able to **do** the work, and/or has a track-record for having dome similar work in the past.

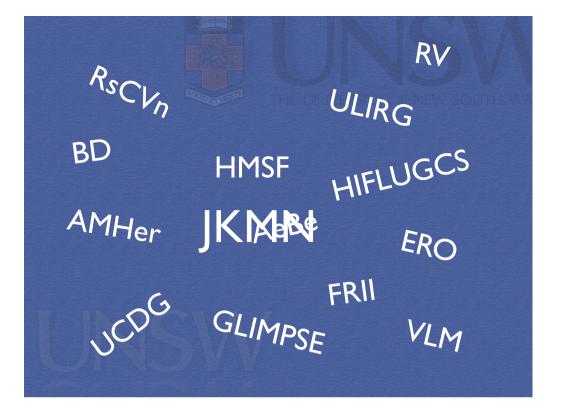- **Must be readble**. And should be pleasurable to read.

Acronyms …. the lowest form of wit.

* Do you REALLY need the 20 characters you'll save by using AGN instead of "active galactic nucleii". Even if its 'accepted' in your field, will it be known to a wider audience. Will it be remembered.
* People outside your field will have a mental stack with about 5 slots for previously unseen acronyms. Use too many, and their stack will overflow and your proposal will become unreadable.

* Play the game …. how many of the following to YOU know, and how many will get shoved onto YOUR mental stack?

Acronym hell - JKMN ("Just Kill Me Now")

Can divide these into a few classes -
Stupid acronyms - acronyms that replace perfectly good words (RV,BD,VLM), and don't actually save space or time. AVOID LIKE PLAGUE
"Class" acronyms - If you MUST use them (and not the words) then you MUST define/explain. DON'T assume the reader has a mental picture of the geometric layout and importance of the RsCVn or FRII class!
"Name" acronyms - If you use these make sure you explain what the name means … not what GLIMPSE stands for, but what GLIMPSE did!

What to *never* do

- Do not ignore the grading or funding criteria.
- Don't submit proposals that are badly written - if English is not your first language, get a colloborator to proof read or rewrite it for you.
- Don't ask for the wrong instrument, the wrong amount of time, or the wrong semester.
- Don't rage at the panels - its not their fault they didn't have enough money or telescope time last time
- Don't waffle - less is more
- **Don't use jargon & acronyms**
- Don't assume everyone *knows* this scientific area is the most compelling thing ever done.

My Recommendations

- **Tell a story. Make your proposal and enjoyable narrative that leads the reader from point to point.**

- **"Close the Loop"**

- Frame your project as an experiment ("Hypothesis and Testing") rather than data gathering.
- Think seriously about the risks of a "new class of object" discovery project.

- Avoid "Goal-mania"
- Avoid the evil "Constrain"

What do I mean "Close the Loop" .... most (and I really do mean most) scientists have learned they need to put a catchy "grab" at the start of their proposal. "Understanding Galaxy Evolution is the most critical problem facing all of Physics today." or "The search for habitable planets" .....

But they THEN go on to talk about what they really want to do .... which is to address some obscure and arcane area of that big issue. You need to make sure that at the end of telling the TAC what you are *actually* going to do, that you can clearly demonstrate how that will address the "Big issue" you raised at the start.

A few things to think of

- Would you want to read this proposal? Late at night? On a plane? Along with 80 others just like it?

- Would you be able to read and understand this proposal in under 5m per page?

- Can you FIND the main points in the proposal without reading the whole thing in all its gory detail?

- Imagine its your hard earned money ....

We tend to treat funding or telescope time for a our research as a right.

But remember funds are limited. Try to imagine its YOUR money that's being given away. **You'd** be pretty conscious of wanting to see value for your money. TACs and grant funding agencies are no different.

It's not the reader's job to understand your proposal

... its *your* job to *make* them understand it.

The safe approach!

Readers are looking for **enjoyable**, **understandable** proposals to read that present **innovative** ideas for new research.

Go ahead and give them one.

* Nothing is more exciting than reading an interesting proposal that's been written in such a way you can understand the scientific context, see the problem, see what will be done, and see that it can be done .... in a field outside your own!

* This creates a "feel good" attitude towards your proposal that money otherwise cannot buy.