WRITING PROPOSALS:
TELESCOPES AND FUNDING

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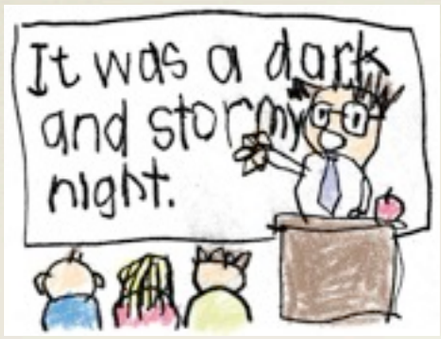
Innovation, Science, Research
and Tertiary Education

Writing



- Why
- Who
- When
- How
- What

Reading

- The process
- Reading
- Ranking
- Reporting

Why


HARDIN
"I was close to a breakthrough when the grant money ran out."

Why

- The harsh reality: Limited resources (telescope time, funding).
- The good: Peer review.
- The bad: Limited resources, peer review.
- The ugly: Your time.

Science at user facilities is diverse and reviewers cover broad areas. Don't assume all reviewers will be experts in your specialty.

Who

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Who

- Who are you writing to?
- Review panel (TAC, ARC, etc.): Are they experts? Knowledgeable scientists but not expert in your field? Politicians?
- What will they see as a compelling argument?
- KISS: Don't go overboard with gory detail.

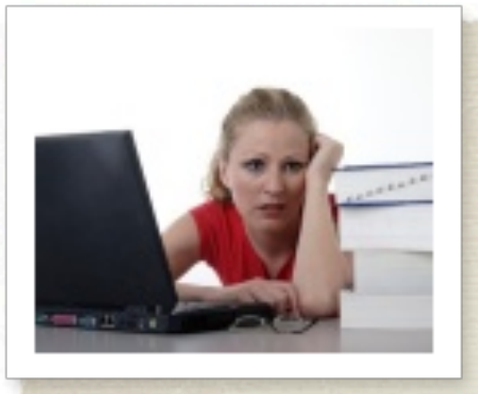
Science at user facilities is diverse and reviewers cover broad areas. Don't assume all reviewers will be experts in your specialty.

Who

- TACs are people too. Even the ARC.
- Write to your peers, the ones who don't do "your stuff"...and then imagine them having to read through 20 (or 50, or 100!) of your proposals and think which bits stand out, or need to.
- Use a spell-checker! Use proper grammar, formatting, headings, subtitles, logically constructed arguments, etc. Proff reed you're wrok befre submit.
- Acronyms: DYRNT?

When

- When is your deadline? Set aside **plenty** of time to work on the proposal! A rushed proposal is very obvious, and never reflects well on the proposer.
- Read the proposal instructions **thoroughly** and **repeatedly**. Check your final proposal against them to make sure it's all spot on. You are competing against others who will.
- Take the process seriously, but also be creative.



When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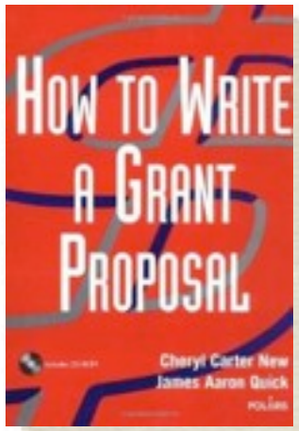
How to Write a Grant Proposal
Cheryl Carter New
James Aaron Quick

How


DILBERT®
BY
SCOTT ADAMS
PREPARE A PROPOSAL FOR THIS CUSTOMER.
WHY ME?
YOU WERE WALKING BY. I HAD IT IN MY HAND.
WE CAN'T WIN THIS BUSINESS. WE DON'T HAVE THE RIGHT PRODUCTS OR EXPERTISE.
JUST SAY WE DO. WE'LL FIGURE IT OUT LATER.
THEY KNOW WE DON'T. AND WE'D STILL BE THE MOST EXPENSIVE BIDDER.
BID LOW. WE'LL MAKE IT UP WITH CHANGE ORDERS AND UNEXPECTED ESSENTIAL UPGRADES.
IN OTHER WORDS, I'VE BEEN RANDOMLY ASSIGNED TO CREATE LIES FOR A PROPOSAL WE CAN'T WIN FOR A SERVICE WE CAN'T PERFORM.
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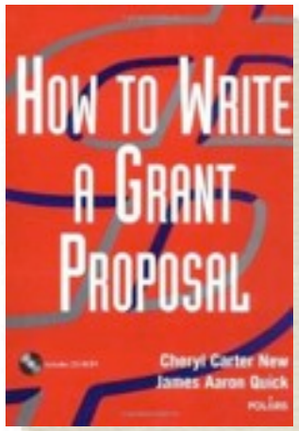
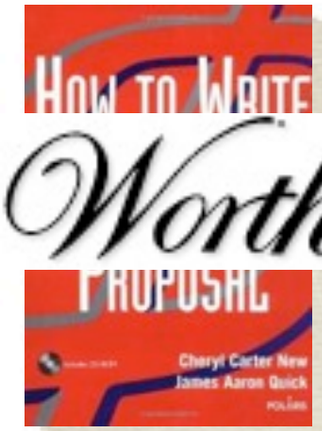


How

- Start with your goals or aims. Don't leave this to the end of your intro. (Or worse, your proposal!)
- Justify why this is worthwhile (background, context), and what significance it adds to your field.
- Next give the detailed description of how you will achieve your results. Evidence here that you or your team have been successful in earlier work along these lines adds weight to your claims.
- Include details (if required or appropriate, and in the specified locations or formats) of personnel, budgets, and timelines.
- Conclude by (briefly!) reiterating your aims and the impact of your results.
- Use appropriate and relevant references. Your reviewer may feel slighted if their ground-breaking work in your field is overlooked.



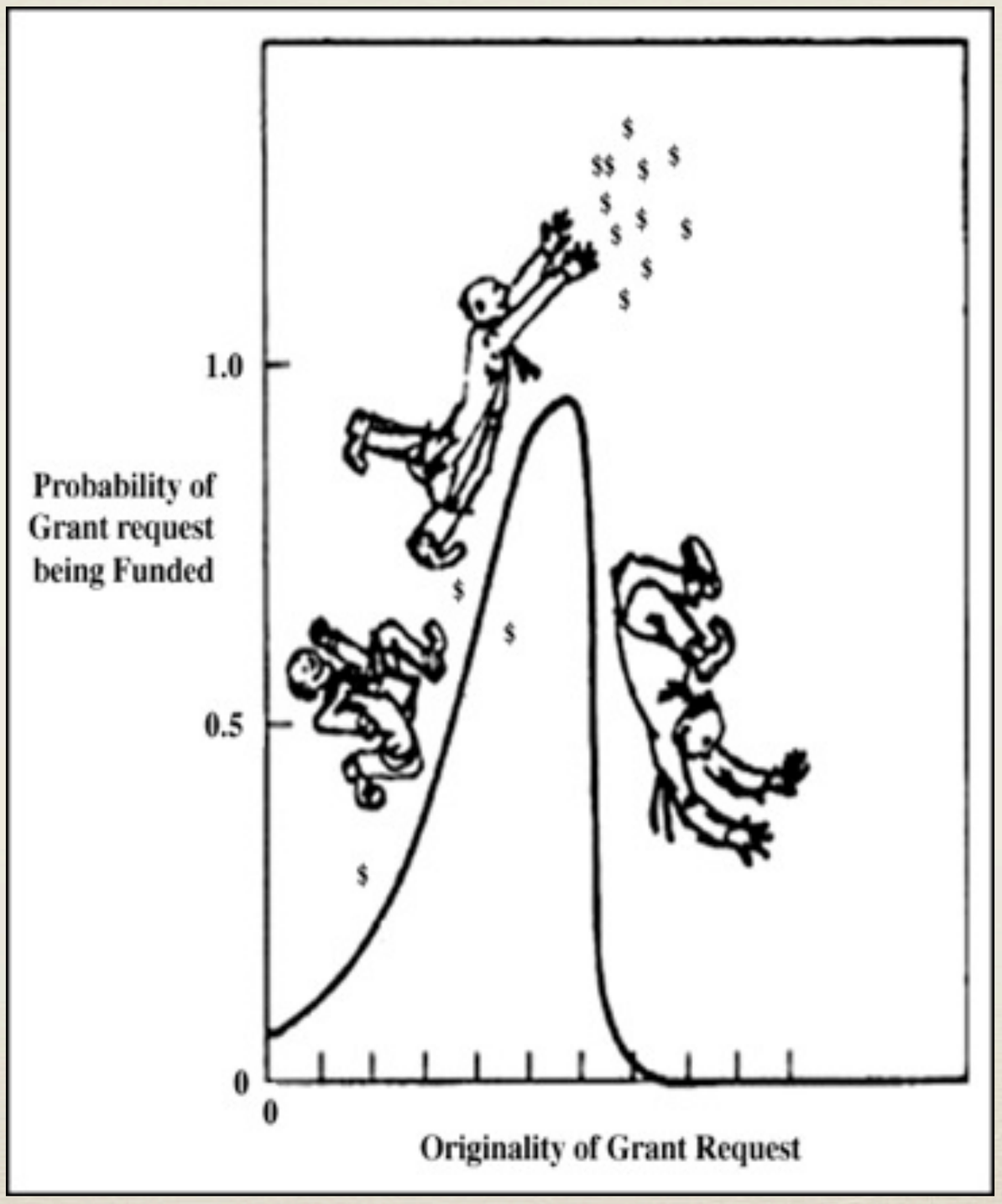
How: Figures

- Valuable (W1K). Need good captions that stand alone (don't refer to the text) and make a point almost in isolation (busy/lazy readers will skim text and look at pictures).
- Still need to support the arguments in the text. Must be relevant.
- Not cluttered: Schematics are good.
- Correctly (and readably!) labelled. Make your fonts bigger!
- Is colour helpful? Is the panel colourblind?

How: Feedback

- Ask! And iterate! (It's not a one-off deal!)
- Coauthors (very important!), colleagues, experts, non-experts, the wider the range the better.
- The more people you get feedback from, the better you'll be able to assess the importance of each set of responses.
- Everyone has their pet peeves, and it's good to find out what at least some of these are!

What: Be creative!



The process

- Your panel is made up of professional researchers, appointed for terms of a few years.
  - TAC: half-a-dozen astronomers.
    - ARC College of Experts: ~80 scientists, currently 17 in the PCE discipline group (2 astronomers).
- Panel members read and grade proposals before the meeting.
- At the panel meeting, grades are combined and proposals are discussed, leading to a final ranked list.

Reading

- Your proposal will be read by two or three panel members (plus external experts in some cases). One panel member has carriage of the proposal (they are the "primary reader" and will introduce discussion of the proposal during the panel meeting).
- TAC members typically have around 20-40 proposals to read.
- Maybe 6-8 weeks between proposal deadline to TAC meeting to read them. Your proposal might have as much as half-an-hour (maybe as little as 5 minutes) eyeball-time in front of the reader.
- ARC CoE members may have 80-100 proposals, but also input from OzReaders and IntReaders. More opportunity between deadline and meeting to read, but also less available time. Similar eyeball-time.

Ranking

- A good proposal is clearly good. A bad proposal is clearly bad. Most time during the meeting is spent on the ~50-80% of proposals in the "grey area".
- Regrading by panel members is done after discussion of proposals, with grades/ranks given by any who have read the proposal (perhaps during this discussion).
- Some panels see the overall ranking in real time, and will adjust gradings to ensure that proposals fall in or out in accordance with the panel's overall judgement of relative merit. Others grade proposals essentially in isolation, and let the rankings fall where they may.
- TAC gradings may be high, but a telescope proposal still not scheduled for practical telescope-assignment or observability reasons.

Reporting

- Once grading/discussion/ranking is finalised, the telescope schedule or funding can be assigned.
- Outcomes are not (typically) released until after this final step, since highly-graded proposals may not be scheduled (or proposals at the cut-off of the "grey area" miss out on funding) for subtle reasons.
- Announcement of success or otherwise may include feedback (from TACs) or not (from ARC, or at least only limited).
- Oversubscription rates are around ~2-3 for many (ground-based) telescopes (up to ~10 for HST), and ~5 for ARC funding.
- If you are successful, **congratulations**! If not, take the feedback on board, get more from your colleagues, and **try again**!

What: Be careful out there!