



Applying for research funding

Some suggestions and tips

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FRST Expert Review Panel ~2006-2009

FRST Post-doctoral Fellow Panel ~2005-2010

MBIE Assessment Panel 2014-2019

ARC College of Experts 2015-2017 and 2019-2021

ARC Engagement Impact 2018 Science & Technology Panel Chair



Outline

- About me
- Why ask for money
- General Grant writing tips
- MBIE funds
- ARC funds
- Other funds
- COVID-19 impacts

About me...

- Academic ~28 years
- Industry programmer ~1.5 years before that
- ~50 grants, AUD ~\$40m funding government + industry
- ~100 grant rejections... [I don't put that off my home page / CV !]
- Currently “Australian Laureate Fellow” = 5 year research fellowship, ~\$5m funding (a big grant...)
- Supervised ~50 PhDs, ~30 post-docs/research assistants
 - Most funded by the ~50 grants!
- Have been Pro Vice-Chancellor, Dean, Head of School/Department, Centre Director, ... over past 19 years
 - Not just a researcher

Why need to ask for money

- Need resources to fund your work e.g. travel money, research assistant/associate, PhD/Masters student, host visitor, equipment, field work costs, consumables, page charges/open access \$ to publish, ...
- University / company can fund *some* of this... but increasingly less and less
- We – as researchers, or R&D personnel if in industry – increasingly NEED to “hunt for funding” to support our work
- Highly unlikely to get “money for nothing” (we’re not on MTV! 😊)
- There are a lot of challenges to overcome...

Basic principles of asking for money

- Need a project to “pitch” to funders
- Need to find an appropriate funding source
- Need to prepare your “pitch” for your audience:
 - What are you proposing to do (“Project”)
 - Why are you the right person to do it (“Investigators”)
 - What are the key outcomes and why important (“Benefit”)
 - Is it even possible to do this (“Feasibility”)
 - When / how long are you proposing to do it for (“Timeline”)
 - What sort of resources do you need (“Budget”)
- Need to polish the application / presentation is very important
- Need to follow the funder rules, be on time
- Need to deliver! (unless don’t want any \$ in future/have to pay it back!)

Example #1 - MBIE funding schemes

- Smart Ideas – smallish innovation projects of between \$0.4 million to \$1 million, for a term of 2 or 3 years.
- Research Programmes (“Programmes”) – larger scale, big team projects ~\$1m-~10m+, typically 3-6 (even 10!) years.

Assessed on Science, Team, Benefit, Pathway to impact, Vision Mātauranga

See the assessment guidelines:

<https://www.mbie.govt.nz/dmsdocument/12231-endeavour-fund-assessment-guidelines-2021-investment-round>

Some key tips for MBIE IT project proposers

- **Heavily Engineer dominated panels** => Software to solve problem X / widget-building most likely to get funded vs empirical SE / theory
- Many IT proposals **fail to recognize amount of work in rest of the world** on the focus area of the proposal – makes them look weak/lack of knowledge
- Good research CVs help, but **need credible industry partnership / outcome** CVs are more important for MBIE programmes
- **Multi-disciplinary team** a good idea to add breadth, depth
- Ideally have **industry partner(s)** as part of the bid
- **Outcome benefit to NZ/Pathway to implementation weak**
- Project plans are often **over-ambitious in Smart Ideas** – not credible in timeframe / resourcing ; IT Programme plans often a bit under-ambitious...

Example #2 ARC Grants

- Two main schemes – see <http://arc.gov.au>
 - Discovery projects – enquiry-driven research – DPs, Early Career (DECRA), Mid-career (Future Fellow), top (Laureate), Centres of Excellence – more like NZ Marsden grants
 - Linkage – foster collaboration with industry – LP, Transformation Hubs, Training Centres, Equipment & Infrastructure - more like NZ MBIE grants
- Detailed specifications, strict timelines, panel (“Selection Advisory Committee” / “General Assessors”) + expert reviewers (“Detailed Assessors”)
- Relatively low success rates e.g. 30% LP, 25% DP, 15% DECRA/FF, ~10% Laureate, ~10% Centres of Excellence
- Fund 2-5 year research projects/programmes (up to 7 for Centres)
- Final report @ end for most ; annual report for bigger ones (CoE, ITRH, ITTC)

Some ARC tips

- Write for a knowledgeable academic but **NOT** a complete expert in the domain – **most of the assessment panel NOT IT experts**
- Project:
 - What is **new, exciting, innovative**, “fundable”? **Why** should this be funded?
 - Key idea -> Research questions -> Key related work/state of the art/limitations -> innovation-> approach -> plan -> personnel -> significance, outcomes & impact
- Investigator(s):
 - Does the team have **the needed expertise**?
 - **Sell yourself** – your track record, why are you the best person/team to do this project?
- Benefit: **need for Australia**, Research, Industry, People...
- Feasibility: explain strategic fit, **capacity/capability, research environment, support, new/existing collaborations**

ROPE – research performance relative to opportunity

- Explain any impacts on your career to date eg
 - Health (yours or family member)
 - Childcare
 - Part time work
 - Moved from industry
 - Moved country
 - Non-research role
 - Heavy service role
 - Unemployed
 - ...

COVID-19 impacts

- ARC College members (incl me) told to discount impact on travel etc
- Understand time may have taken big hit for some but not others - ROPE
- Understand getting PhDs, post-docs hard
 - E.g. borders closed - I have 4 students stuck overseas, 2 can't travel to Australia to start
- May have to restart grants/grant-getting
 - Can you team up – easier to hunt as a pack
 - Can you get seed funding to help
 - Can you share resources (yours/someone elses)
 - Start small work up to big / tougher grants
 - Clearly state impacts on opportunity / most funding agencies & panels understand
 - Target different funders/industry / adapt your research to new demands / interest areas

Other sources (another talk for another day)

- Fellowships (internal and external)
- Seed grants (internal)
- Industry collaboration – fund/co-fund
- Industry R&D grants e.g. FB, Amazon, MS etc
- Philanthropic grants
- Crowd-sourced funding
- Government schemes fund either **discovery research** or support **academic/industry collaboration**
- Industry schemes and organizations and some crowdfunders want **targeted R&D** for industry outcomes / share of the IP/\$ that results
- Philanthropists, some crowdfunders want often **non-economic outcomes**

Summary

- Need money to fund resources needed for research / R&D
 - Its an **INPUT** not an output (vs papers)
- Need a **team**, a **project** idea, a **pitch** to funders
- Most grants a **team game** – build team ; complementary expertise
- A good grant takes a lot of time to put together – **allocate sufficient time**
- Low success rates are common in many schemes – **perseverance is an undersold virtue!!**
 - Like papers in top confs, journals
 - Often try try try again...