

1. Scope and purpose of the ARC

a) The Royal Australian Chemical Institute (RACI) strongly advocates for a balance between fundamental and applied research, with both supported through well-managed ARC funding schemes. The RACI is a 105-year-old organisation representing over 4000 chemistry professionals, the majority of whom have been leads, partners or beneficiaries of ARC funding be it as academics, students, governmental agency professionals or private company employees or owners.

b) It is important to recognise that many technological and scientific breakthroughs were enabled by fundamental research that, at the time when it was carried out, had no foreseeable commercial application. It is crucial for Australia's long-term prosperity to support and strengthen Australian fundamental research programs, through the Discovery Project scheme and beyond.

c) The RACI recommends that the ARC Act is amended to explicitly recognise the key role that the ARC should have in providing support for fundamental research, not necessarily defined by commercial application, and academic excellence in the Australian Research landscape.

d) The RACI recommends that the medical exclusion policy of the ARC be revised to be less restrictive to fundamental based medical research.

Detailed justification regarding d): The very nature of fundamental research is that its impact can be hard to predict both in terms of scope and time frame. This includes research that ultimately might have impact on human health. Health and Medical research is currently defined as being outside the scope of funding from the ARC, as it should be normally supported by the National Health and Medical Research Council (NHMRC) and the Medical Research Future Fund (MRFF). However, while well intended when first introduced, the way this policy has been implemented in later years is significantly impacting on the international competitiveness of Australian researchers as high-quality fundamental research that is clearly not clinically or medically focused, and unlikely to get NHMRC and MRFF funding, is now often excluded simply because the work might have some future impact on human health.

To address the competitive disadvantage for Australian research we suggest that the ARC medical exclusion policies be simplified in the spirit of the original implementation (See 2013.1 version on the ARC website), focusing mainly on excluding late pre-clinical / early human trials and studies on root disease causes using human or animal materials that would normally be funded by the NHMRC or MRFF. At the same time the ARC could also work with the NHMRC, MRFF and other related agencies to increase funding opportunities at the intersection between fundamental research and human health.

2. Governance and management

a) The RACI recommends that the ARC Act is amended to incorporate a governance model that establishes a board which should consist of prominent members of the research community, appointed by the research community.

b) The RACI recommends that the ARC Board appoint the ARC CEO, who must have high-level research and management expertise. The ARC Board should provide the ARC CEO with key directions on matters such as application and review processes, that where applicable, are in line with good and efficient grant management practices in other countries.

3. Academic expertise and peer-review

a) The RACI strongly advocates for the pre-eminence of peer review in grant assessment. We recommend the creation of an advisory panel to support and advise the ARC CEO.

a) For medium-sized grant schemes such as the current ARC Discovery Project and ARC Linkage Project Schemes, the RACI recommends that the application process is reviewed and greatly simplified in accordance with best practice from other countries, and in that process the weighting of the score of the specialised reviewer in the assessment process is increased. Ideally, this would mean that discipline-focused reviewers would provide the sorting of grants between those that could be funded and those that cannot. Cross-disciplinary panels would focus only on the final balancing of funding decisions. We also propose a two-stage application process be implemented, which would exclude applicants from reviewing grants in the same round of their application.

Details regarding b) We point here for instance to the New Zealand Marsden funds which operates a very efficient two-stage process with a two-page Expression of Interest (EOI) submission, rapid decisions are made on those EOI's, followed by full applications of approximately 25 pages including research proposal, references, project plan and CV's for the research team. Another example comes from the French National Research Agency (ANR) which in their general call, also has applications of about 25 page including project description, CV's, impact statement and budget.

c) For ARC major schemes such as Centre of Excellence and ARC Laureate Fellowships the RACI strongly recommends that the review and grant ranking process is moved to an internationally-focused panel of prominent research scientists. Funding decisions on these large schemes should be beyond reproach and dominated by independent international researchers with local University, Industry or Government administrator only giving advice to such a panel on how the proposed research fits with national priorities or particular areas of research strengths such as our first nations knowledge of the country.

4. Grant approval

To our knowledge, no other advanced democratic country includes a ministerial veto over research funding. This system damages Australia's international reputation. The RACI recommends that the minister has no veto power over research grants.

5. National Interest Test

a) The RACI is of the view that the National Interest test (NIT) should be removed. The RACI shares the view of the Australian Institute of Physics (AIP) in believing that strengthening the social licence for public funding is of critical importance. However, in our view, the NIT does little to achieve this aim. Good value for money for our society needs to be achieved by a robust policy framework. In addition, we consider that the social licence of public funding would be strengthened by ensuring that the funding system is held in high regard by the science community and by the Australian public, is viewed as impartial and fair, and is free from the perception of political interference.

b) To strengthen the social licence deal between the government, the ARC and the research community the RACI suggest that instead the Federal and State government fund annual or biannual summits between the government, ARC, the national learned societies and national professional societies representing the research communities that are active within the ARC funding framework such as the RACI, AIP and other kindred organisation. Those summits could be organised by the Australian Academy of Sciences (AAS) and would give ample opportunities for the ARC, government and the research communities to discuss how the ARC can get the best value for money for our societies both in terms of direction and process.

6. Administrative burden

The RACI agrees that some current administrative arrangements are onerous, and particularly concerning:

- delays to, and uncertainty regarding announcements;
- unexpected changes to grant rules and deadlines;
- onerous requirements made of partner investigators who do not receive direct funding;
- the scope and currency of Australia's Science and Research Priorities.

7. Process improvements

- a) The RACI appreciates and supports the improvements that have been made to deliver grant rounds on time, to a predetermined time frame.
- b) In reference to Q3 the RACI is of the opinion that the application and review processes need to be significantly simplified. An overriding principle is that application material that goes to review contains no administrative information, e.g., employment conditions that have little or no relevance on the quality of science being proposed or the capability of the team.
- c) Processes for including international collaborators in ARC grant schemes needs to be greatly simplified. Current processes to include Partner Investigators on ARC grants are very onerous on our international partners. Furthermore, if a grant is awarded, and even though no direct funding goes to these international partners, funding rules dictate a very lengthy and onerous process on multi-institutional agreements between the Australian and international organisations involved. These processes severely harm the competitiveness of Australian science on the international stage.
- d) The RACI would also like to highlight, as a positive example of the process, the Research Opportunity and Performance Evidence (ROPE) statement and how it is implemented in terms of the ROPE section in grant applications. This is perhaps the most impactful process innovation the ARC has made and has for instance, directly influenced processes for RACI National Awards. While the CV / Investigation information sections in most grant schemes needs to be greatly simplified and shortened, the ROPE section should prevail and the ROPE statement should continue to be implemented in review processes.
- e) ROPE has been a success and a great improvement for those with family or carer responsibilities. However, further improvements could be gained in the Discovery grant scheme by having more than one application round per year – perhaps similar to the current Linkage Project scheme – except researchers could only apply once a year. This would be much easier to implement with a simplified and/or a two-stage application process. Having two or more rounds would also make it easier to exclude grant applicants from the reviewing process in the round they have chosen to apply in.

8. ERA and EI

The RACI's view is that the ERA initiative is a costly initiative (both for the universities and the ARC) and no longer of benefit to the research community and the ARC. It should be discontinued.

9. Evaluation capability

In line with our response to Q8, the costly ERA and EI processes should be discontinued and hence any future processes aimed at harnessing that data. The current ARC data portals and communication strategies are useful and should remain.

10. Other comments

- a) The separation of policy and execution is an important principle in terms of independence and practicality.
- b) The ARC Board, which should consist of prominent members of the research community, appointed by the research community, should be the key vehicle for the ARC CEO and staff to seek advice on how deliver the best possible processes for providing research funding to the Australian research community. The ARC Board should be provided with the means and resources to regularly consult with Australian research community groups.
- c) The RACI encourages the ARC and its Board (see Q2) to explore the introduction of a small grant scheme, providing e.g., \$50-70K projects over a 3-year period. This scheme needs to be very light on administration and simpler again than the mainstream Discovery program in terms of the application process, reviewing, funding contracts and compliance. Funding for a small grant scheme should not come at the expensive of the Discovery scheme, rather it should either come from new additional funding from the government to the ARC or by moving some funding from the Linkage program in lieu of small grants needing to include collaboration (academic, government, industry, Australian or international) from outside the administrative organisation of the main applicant. Small grants could also easily be run twice a year which would benefit people with family and carer responsibilities.