

Alan Raine
Committee Secretary
Senate Education and Employment Legislation Committee

Re: Australian Research Council Amendment (Ensuring Research Independence) Bill 2018.

I am Aidan Sims, a Senior Professor of Mathematics at the University of Wollongong, and one of the two College of Expert members who resigned in protest at the Ministerial veto six ARC Discovery Projects in 2021. I have worked in the Australian university system since 2004. My roles have included: Associate Dean of Research; University Research Committee member; Head of School (Mathematics and Applied Statistics); Australian Mathematical Sciences Institute Research and Higher Education Committee member; Australian Mathematical Society (AustMS) Council member; AustMS Equity, Diversity and Inclusivity Committee member; and AustMS Vice President. I have frequently provided expert assessments of ARC applications since 2005. From January 2019 to December 29 2021, I was a member of the ARC College of Experts. These roles give me a broad overview of university research in Australia. They also give me experience of the quality of Australian research, of the quality of applications submitted to the ARC, of the ARC's rigorous assessment process, and of the complexity of assessing the objectives, methodology, feasibility and benefit of cutting-edge research.

I also collaborate extensively with colleagues throughout the USA, Canada, the European Union, the UK, Brazil, and New Zealand. I frequently provide peer review of grant applications for bodies including the NSERC (Canada), the NSF (USA), the EPSRC (UK), the Swiss National Science Foundation, KU Leuven (Belgium), the Centre de Recerca Matemàtica (Spain) and the European Science Foundation. So I have many points of comparison between the ARC funding processes and those of comparable bodies internationally.

I strongly support the proposed amendments to the Australian Research Council Act 2001. I will argue that the existing provision for Ministerial veto—based on value for money or national interest—of applications recommended through the ARC's process is

- unnecessary,

and that it should therefore be eliminated from the legislation because it is

- inconsistent with informed decision making,
- counter to transparency and natural justice,
- counter to academic freedom, and
- harmful to Australia's interests.

This is distinct from questions of national security or ministerial oversight of ARC process. Such checks and balances may be necessary, but should be implemented through a transparent process involving input from experts, and consultation with and right of reply from candidates and their institutions, not through unilateral veto.

Ministerial veto is unnecessary. By comparison with comparable funding bodies, ARC applications are exceptionally detailed. They require, in particular, unusually detailed justification of benefit and value-for-money as an explicit assessment criterion. ARC applications are 50–100 pages. This page count includes a detailed discussion of benefit, and detailed budgets and itemised justifications of budget items; usually 3–5 pages. Benefit carries 10%–15% of the overall assessment weighting. ARC College members are conscious of the preciousness of ARC funding, which is scarce. They scrutinise budgets closely, cutting them to minimal viable allocations based on their own extensive research experience. I have encountered no other funding scheme with such strong mechanisms to ensure benefit and value-for-money in research recommended for funding.

The ARC's process also requires applications to explain benefit to a much wider audience than most comparable schemes. The College's Selection Advisory Committee Panels each cover multiple disciplines. While primary carriage of each grant typically lies with a subject-matter expert to assess research methodology and feasibility, all members of the panel who do not have a conflict of interest contribute to final funding recommendations. Given the scarce budget and the volume of excellent applications, only applications that make an argument of benefit and value-for-money that is compelling to all panel members are likely to be recommended for funding.

Additionally, the ARC's assessment process is exceptionally rigorous. Each application is reviewed in full by up to four Expert Assessors, and two or three ARC College members. Applicants provide written rejoinders to Expert Assessors' comments, which are also thoroughly reviewed by the College members. College panels meet, and the collated assessments and rejoinders for all applications in or near the funding range are discussed in detail by the full panel. I estimate that each recommended application represents approximately 5–6 person-days of scrutiny from world-leading experts. For context, each funded grant represents an investment of less than 1c per Australian taxpayer per year¹. In absolute terms, and especially in terms of scrutiny per unit expenditure, the ARC process is by far the most rigorous and detailed research-expenditure assessment process that I have encountered.

Finally, the overall quality, benefit and value of applications recommended for funding is exceptional. Australia's research sector is among the world's best, as demonstrated by ERA data. From within this top-quality system only particularly strong researchers tend to apply for ARC funding: applications are very lengthy and time-intensive, and the success rate is low. Even amongst these self-selected applicants, only 20% can be funded. So applications recommended to the minister are of exceptional quality on all criteria, *including* benefit and value-for-money.

Ministerial veto is inconsistent with informed decision making. Assessing the benefit of research is very complex. It requires subject-area expertise, full detail of the proposed research, and familiarity with the history of the long-term benefits of related research advances. A concrete example: the mathematical theorem behind Google's original search engine was discovered in 1907. At the time, it was regarded as purest abstraction by all but subject area experts who could see its potential benefit for optimisation problems. Even they could not have foreseen computers and the internet. The same principle applies to current research. The most profound benefits come from research that transforms paradigms and introduces entirely new possibilities. They are precisely the benefits that are least apparent to a non-expert or from a brief summary or from a short-term perspective. For truly cutting edge research that will deliver profound benefit, an application title and National Interest Test statement or précis cannot begin to convey the detail and nuance required to make informed decisions on benefit or value for money.

Ministerial veto is counter to transparency and natural justice. ARC funding schemes describe detailed selection criteria and assessment processes to applicants ahead of time. Applicants know how applications are assessed, and have a right of reply through written rejoinders. ARC processes for avoiding conflicts of interest and bias are extremely robust. By contrast, Ministerial veto is at the discretion of one individual. It includes no clear criteria, no right of reply, and no justification. It appears to be subject to the opinions of the Minister of the day on particular issues or research domains. The effects of unconscious and implicit bias are well documented. The existing provision for ministerial veto includes no checks and balances to mitigate against them. Ministerial veto provides no protection against decisions based on conscious or unconscious perception of factors such as the political affiliation, ethnicity, or gender of an applicant; or on perceived relationships between the proposed research and the Minister's own political, religious or other affiliations.

¹Discovery grants are around \$300K–\$400K over three years. So up to \$133K, or 13.3M cents per year. Approximately 15M tax returns were lodged in Australia in 2019 <https://www.statista.com/statistics/1181680/australia-number-of-individual-tax-returns-lodged-by-lodgment-type/>.

Ministerial veto is counter to academic freedom. Of course, veto can compromise academic freedom if a minister explicitly blocks investigation in specific academic directions or areas. But even assuming that such direct politicisation of research does not occur, Ministerial veto compromises academic freedom indirectly. Academic careers depend critically on ARC funding. As there is just one round per year and a very low success rate, researchers—particularly in fundamental research areas—*must* maximise their likelihood of success. They will avoid research, even if it is important, that they *perceive* as being in danger of veto. Similarly, universities rely heavily on ARC funding. Academic hiring processes may tend to avoid hiring researchers they *perceive* as being in danger of losing grants to veto. The possibility of ministerial veto therefore tends to shut down lines of discourse and enquiry to an extent disproportionate to the actual use of veto powers. It leads to blind spots in our national research profile, and gaps in our expertise, capacity and capability.

Ministerial veto is harmful to Australia's interests. Former heads of the National Science Foundation (USA), the European Research Council, and the Alexander von Humboldt Foundation (Germany) have recently made strong statements that show that Ministerial veto has damaged and will continue to damage international confidence in Australia's research system. The reputational damage is immediate, but there are further consequences. The ARC relies on domestic and international experts donating significant time to assess ARC applications—typically a full day to thoroughly assess a single grant application. Ministerial veto has led experts to question whether to continue to support this process: why do so if the minister may later ignore their expert recommendations. This is not speculation. Since last year's vetoes became public, a number of colleagues have asked me why they should continue to assess for the ARC. This reduces the expertise the ARC can draw on to assess grants. Less-expert assessments will lead to less-informed funding decisions, and ultimately to our research dollars being less well spent. This is contrary to our national interest.

We will also compromise the excellence of our research and higher-education sector in the long run. Top international researchers will be reluctant to move into a system that they perceive as hostile to research and subject to arbitrary vetoes of research funding. Top Australian researchers will leave for other university research systems that they see as fairer and more equitable. This will cause a long-term drain on the calibre of researchers in the Australian university system. Again, this is contrary to our national interest.

To summarise, the existence in current legislation of provision for the Minister to veto grants recommended for funding by the ARC's processes is unnecessary, inconsistent with informed decision making, contrary to fairness and academic freedom, and ultimately damaging to Australia's national interest. It should be removed.

Yours sincerely,

Aidan Sims