

19 December 2022

## Early & Mid Career Researchers Forum submission on the Review of the Australian Research Council Act (2001)

The [Early- and Mid- Career Researcher \(EMCR\) Forum](#), supported by the Australian Academy of Science, welcomes the opportunity to provide feedback on the ARC Review Consultation Paper. The EMCR Forum represents 6000+ Australian EMCRs in Science, Technology, Engineering, Mathematics and Medicine, and therefore offers unique and important perspectives on this matter.

The EMCR Forum recognises the vital role of the ARC in supporting research and the future of Australia, and appreciates the time and effort the ARC is dedicating to consulting with the research community. Below, we address the ten questions listed in the Consultation Paper.

### Question 1: Scope & Purpose of ARC

#### ***How could the purpose in the ARC Act be revised to reflect the current and future role of the ARC?***

*For example, should the ARC Act be amended to specify in legislation:*

- a. the scope of research funding supported by the ARC;*
- b. the balance of Discovery and Linkage research programs;*
- c. the role of the ARC in actively shaping the research landscape in Australia; and/or*
- d. any other functions?*

*If so, what scope, functions and role?*

*If not, please suggest alternative ways to clarify and define these functions.*

It is recommended that the ARC Act be revised to emphasise that the ARC's role is to provide funding for research to Australian universities and their partners, and that the scope excludes health and medical research (which are funded separately through the National Health and Medical Research Council and the Medical Research Future Fund). These exclusions should be clearly defined and communicated, with assessment of eligibility conducted early in the process to avoid peer reviewers having to review ineligible proposals. The ARC Act should also state that the ARC's funding scope extends to all other recognised academic disciplines, and that the ARC supports pure basic, strategic basic and applied research, but not experimental development, as defined by the Australian Bureau of Statistics.

The EMCR Forum would also like to emphasise that fundamental research remains the bedrock of all research, and therefore should remain a core part of the ARC's funding structure. Therefore, we suggest that the ARC consider including a minimum funding requirement (as a proportion of total) for fundamental research be specified within the Act, or alternatively, that the proportion of funding dedicated to fundamental research be announced publicly.

### Question 2: Governance & Management

***Do you consider the current ARC governance model is adequate for the ARC to perform its functions?***

*If not, how could governance of the ARC be improved? For example, should the ARC Act be amended to incorporate a new governance model that establishes a Board on the model outlined in the consultation paper, or another model.*

*Please expand on your reasoning and/or provide alternative suggestions to enhance the governance, if you consider this to be important.*

While the EMCR Forum does not have a strong opinion on whether the ARC CEO should be advised through an advisory council, through a separate Board, or via a different governance structure, the EMCR Forum does recommend that the ARC consider expanding the diversity of their governance structures to better reflect the cross-section of the Australian research community and to capture the diversity of research careers. We suggest implementing a process to periodically consult with representatives of various intersectionalities and at all career stages. We strongly encourage seeking feedback and input from the early and mid-career researchers' community, who may provide unique perspectives on identifying challenges and developing solutions.

Having more consultations and widening the representation on advisory committees and/or on the Board would benefit both the ARC and the research community, particularly given that there is a pervasive view that the ARC is not transparent and not accountable. Diverse representation would also contribute to rebuilding trust in our national funding system, and will provide the ARC with the means to identify problems (e.g. biases, need for more investments in research) and design creative solutions.

### Question 3: Academic Expertise and Peer Review

***How could the Act be improved to ensure academic and research expertise is obtained and maintained to support the ARC?***

*How could this be done without the Act becoming overly prescriptive?*

To ensure that Executive Directors (EDs) and members of the College of Experts (CoEs) have the appropriate expertise and credentials, we recommend that the Act specify that each candidate require a sufficient number (e.g., two) of independent nominations prior to being recruited. The nominators should also be prescribed to be independent in the sense that they not work closely with the nominees, and that they do not have any conflict of interest in the nomination process (e.g. not be in a favourable position if their nominee is awarded the ED or CoE position). There should be a strong focus on recruiting only those that have a clear record of superior research integrity, and a solid record of supporting and promoting equity and diversity.

We strongly encourage the ARC to strengthen the quality of their peer review system through accounting for diversity in the peer reviewer recruitment process. Having representatives from different intersectionalities in the College of Experts would be reflective of the diversity of backgrounds and careers of our national research community and would contribute to addressing any existing biases. Additionally, we suggest that all people involved in the grant assessment process, including reviewers, demonstrate that they have undertaken and successfully completed structured and rigorous unconscious bias training. While we appreciate that the ARC already has strong policies in place to address bias, reviewers' feedback is often incongruent with the aims of those policies.

#### Question 4: Grant Approval

##### ***Should the ARC Act be amended to consolidate the pre-eminence or importance of peer review?***

*Please provide any specific suggestions you may have for amendment of the Act, and/or for non-legislative measures.*

The Forum endorses the need for ministerial transparency in the event of intervention, and would welcome the Act be amended to indicate, either directly or by inference, that the Minister veto be activated only under exceptional circumstances, and that the burden of justifying the veto falls to the Minister. While we strongly support the use of rigorous peer review to determine research funding outcomes, we acknowledge that there are some circumstances where intervention may be appropriate (e.g. national security, foreign interference). In these circumstances, the Act should specify the requirements of the Minister to inform the research community, and the public, in sufficient detail, the reasons for the intervention.

While the above requirements may appear to be onerous, our opinion is that they are necessary to safeguard the integrity and robustness of the research funding distribution process.

#### Question 5: NIT

##### ***Please provide suggestions on how the ARC, researchers and universities can better preserve and strengthen the social licence for public funding of research?***

The EMCR Forum recognises the need for promoting the value of Australian research more broadly to the wider community, and to justify public spending on research. We do agree that there is significant benefit in expanding and consolidating public understanding of, and support for, research, which may ultimately contribute to societal demand for increased research spending.

To this end, the NIT statements are a useful tool for communicating how taxpayer funds are used to support research that suits the national interests of Australia. However, the role of the NIT as a tool to determine funding outcomes should be re-assessed, given that a good NIT statement is often more a test of good written communication skills rather than good research.

The EMCR Forum also notes that there remains some confusion on a) how the NIT is used in the assessment of grants, b) the weighting of the NIT in scoring grant proposals, and c) the differences between the NIT and other national benefit criteria that form part of the core proposal. While we note that the ARC is currently addressing feedback and concerns of the research community through introducing changes that simplify the NIT statement process, thereby making it less time consuming and more effective, more work could be done in clarifying the role of the NIT, and how this is used to determine funding outcomes.

As a more general approach, we encourage the ARC to seek collaboration with researchers, institutions, government, learned academies, other research institutions and relevant stakeholders to promote outcomes of publicly funded research, their importance to the national and global interest, and their potential impacts to the broader society.

#### Question 6: Administrative Burden

##### ***What elements of ARC processes or practices create administrative burdens and/or duplication of effort for researchers, research offices and research partners?***

ARC grant applications are very long (including project proposal, track record summary, budget details and other requirements), with DECRA/FT's being ~40 pages and a full proposal involving multiple investigators exceeding 70-80 pages. This presents a huge burden to applicants, institutional research offices and peer reviewers/panel members. In addition, the sheer effort required to complete such a long application creates an equity issue, as researchers who cannot commit to this workload will be discouraged from applying – these include researchers with caring responsibilities, who work part-time, and/or who are on short contracts. One option to reduce this burden is through a two-stage application process, which we discuss in more below (**see response to Question 7**).

We welcome the ARC's recent decision to simplify the process of assessing National Interest Test (NIT) statements, as this will reduce the administrative burden on applicants and research offices, as well as shortening the period between application submission and announcement of outcomes. We also acknowledge the efforts of the ARC in announcing grant outcomes at the earliest possible date, and particularly in avoiding the opening of new funding rounds prior to outcomes being released from previous rounds. Particularly for EMCRs on fixed-term contracts, it would be useful to have "grant calendars" for major schemes made available each year to enable research/career planning.

**Question 7: Process Improvements**

**What improvements could be made:**

- a. *to ARC processes to promote excellence, improve agility, and better facilitate globally collaborative research and partnerships while maintaining rigour, excellence and peer review at an international standard?*
- b. *to the ARC Act to give effect to these process improvements, or do you suggest other means?*

*Please include examples of success or best practice from other countries or communities if you have direct experience of these.*

The EMCR Forum encourages a 2-stage process for grants and fellowships, involving an initial expression of interest followed by a shortlisting process to invite only a certain percentage of applicants to submit a lengthier, detailed application. This is also likely to reduce the burden on peer reviewers. We also recommend the introduction of a dedicated scheme for people with career interruptions due to caring responsibilities/disability etc to re-launch their research careers.

To improve career agility, particularly between academia and industry, and to ensure those who have had career disruptions are not unfairly penalised, the ARC should also consider re-assessing whether volume-based publication metrics (e.g. h-index, number of publications, number of citations) are an appropriate measure of researcher capability. An option to address this would be to limit the number of publications that researchers are assessed on, either through direct instruction to the reviewers, or through limiting the number of papers researchers can list in the proposal, or both.

**Question 8: ERA and EI**

**With respect to ERA and EI:**

- a. *Do you believe there is a need for a highly rigorous, retrospective excellence and impact assessment exercise, particularly in the absence of a link to funding?*
- b. *What other evaluation measures or approaches (e.g. data driven approaches) could be deployed to inform research standards and future academic capability that are relevant to all disciplines, without increasing the administrative burden?*
- c. *Should the ARC Act be amended to reference a research quality, engagement and impact assessment function, however conducted?*
- d. *If so, should that reference include the function of developing new methods in research assessment and keeping up with best practice and global insights?*

We recommend that the role, function, intent and implementation of the ERA process be re-evaluated for reasons outlined below.

Firstly, the ERA process is a significant administrative burden on institutions. The significant cost of the ERA process redirects valuable resources away from research which generates direct, measurable, and impactful outcomes. Furthermore, the high administrative burden of the ERA process results in increased inequality amongst Australian research institutions, given that smaller (non Go8) universities have smaller operating budgets than larger institutions.

Secondly, the intent of the ERA needs to be made clear. Currently, the purpose of the ERA appears to be aimed at focussing on pockets of research capacity that generate research excellence, rather than a) building future

research capacity (e.g., training EMCRs), b) addressing areas of research weaknesses (some of which may be critical for the future e.g. social equity, climate change, education) or c) promoting research integrity. While we do not dispute the value of highlighting research excellence, we note that there are other research ranking initiatives (e.g., QS, THE, ARWU) that already measure research excellence on a global scale. Therefore, the value of the ERA should be re-evaluated in the context of existing metrics of research excellence.

Next, the way in which ERA is currently evaluated primarily involves data from citations and HERDC-reported grant funding. Although these are quantifiable measures of research output, they are not necessarily a good measure of research quality or integrity. We consider that in addition to conventional metrics of “research excellence”, ERA should also encompass evaluation of how institutions a) support careers over the long-term (particularly the careers of EMCRs and people from under-represented groups), b) demonstrate an active commitment to research integrity and efforts to drive equity, diversity and inclusion, c) acknowledge the contributions of industry-based researchers and d) acknowledge contributions of researchers outside of those reported through HERDC (e.g., industry consulting, community engagement). We suggest that the ARC consults with relevant groups on how to define ways to appropriately measure these important criteria (see response to **Question 9**).

Furthermore, in order to score highly for ERA in a particular discipline and boost their rankings, institutions are encouraged to hire senior researchers with strong track records to the detriment of researchers (typically EMCRs) who have not had the opportunity to build such a strong track record yet. This encourages institutions to focus on a narrow range of researchers at the expense of a diverse, broad and robust research workforce. Most notably, the ERA process discourages the development of research capability in emerging fields of research, as it does not discriminate between poorly-performing research areas and emerging research areas.

Lastly, we also note that the ERA process is vulnerable to being manipulated by individual researchers, and/or research institutions, because the ERA process does not discriminate between genuine high-quality journal publications, and low-quality/predatory journals (the latter which may garner large amounts of citations). The ERA is particularly vulnerable given that a small number of highly cited publications (regardless of whether the article was cited for positive, or negative, reasons) strongly impact the ERA score. Therefore, the value of utilising citation metrics as a measure of research quality and excellence should be heavily questioned.

#### Question 9: Evaluation Capability

***With respect to the ARC’s capability to evaluate research excellence and impact:***

- a. *How can the ARC best use its expertise and capability in evaluating the outcomes and benefits of research to demonstrate the ongoing value and excellence of Australian research in different disciplines and/or in response to perceived problems?*
- b. *What elements would be important so that such a capability could inform potential collaborators and end-users, share best practice, and identify national gaps and opportunities?*
- c. *Would a data-driven methodology assist in fulfilling this purpose?*

The EMCR Forum encourages the broadening of measures to evaluate research excellence to include other criteria such as how institutions a) support sustainable and accessible career progression for EMCRs (and those from minority groups), b) promote research integrity, c) support industry-based research, d) promote and acknowledge inter-organisational collaboration, e) acknowledge indirect research contributions (e.g., science communication and community engagement) and f) how they contribute to a positive and equitable research culture, to name a few. These criteria are challenging to quantify but have a significant positive impact to research quality, impact and sustainability.

We suggest that the ARC work with relevant institutions including Learned Academies (e.g., the EMCR Forum, the Australian Academy of Science), professional networks (e.g., the National Indigenous STEM Professional Network, Universities Australia), organisations advocating for equity, diversity and inclusion (e.g., Science in Australia Gender Equity, Diversity Council Australia, Queers in Science) and state/federal Chief Scientist offices, together with DVCRs of universities, to identify appropriate measures and how these can be assessed and captured.

Importantly, the way in which these data are collected should involve a flexible process not limited to quantifiable metrics, to enable a case-by-case assessment (depending on field/discipline etc) as required.

We also recommend that the ARC consider referring to work done by other peak bodies on measuring research success, such as the Association of Australia Medical Research Institutes (AAMRI) Research Impact Project. We also note that the Academy of Science's EMCR Forum is also embarking on a process to develop a framework for identifying, measuring and promoting research success utilising multiple assessment dimensions.

The EMCR Forum would also support leveraging the ARC's considerable research expertise towards improving academia-industry links, in particular, facilitating cross-pollination of ideas between sectors, encouraging career mobility for researchers between academia and industry, and increasing industry research spending. The ARC's understanding of national research funding structures and the research drivers within academic institutions, together with their expertise of broad fields of research, will put the ARC in a strong position to build positive and sustainable academia-industry research links.

Question 10: Other Comments

***Having regard to the Review's Terms of Reference, the ARC Act itself, the function, structure and operation of the ARC, and the current and potential role of the ARC in fostering excellent Australian research of global significance, do you have any other comments or suggestions?***

We are grateful to the ARC for the opportunity to respond to their review and would be very keen to contribute to future consultations with the ARC on an ongoing basis as required. Some additional thoughts from our committee are included below for the ARC's consideration:

**Feedback to applicants:** Unsuccessful applicants receive the feedback of the reviewers and not of the panel who made the decision. In many cases, the feedback includes comments that can be addressed but the application is deemed unsuccessful. Therefore, applicants do not know what to improve in future submissions. We suggest looking into how other systems (e.g., ERC starting grants, Marie Skłodowska Curie Fellowships) summarise strengths and weaknesses of the applications in feedback documents shared with unsuccessful applicants, and implement a similar system.

**Distribution of funds:** We recommend that the ARC consider stratifying schemes into junior/senior categories (e.g., B-C and D-E) to ensure that the bulk of the funding is not awarded to senior (level E) applicants. Accordingly, a dedicated scheme for those with career disruptions would be valuable to help them to re-enter research.

**Increasing funding pool:** While we appreciate that the ARC may have limited influence in the total amount of research funds that is available for distribution, we recommend that the ARC consider increasing its responsibility for driving public demand (or acceptance) of publicly-funded research, for example, through increased marketing / communication of research outcomes. The aim of this would be to encourage federal governments to increase research funding, which for the past few years have stagnated (or alarmingly, decreased).