

Submission to Australian Research Council

ATSE submission on ERA 2023 – Preprints Consultation

18 March 2022



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ATSE SUBMISSION ON ERA 2023 – PREPRINTS CONSULTATION

The Australian Academy of Technology and Engineering is a Learned Academy of independent, non-political experts helping Australians understand and use technology to solve complex problems. Bringing together Australia's leading thinkers in applied science, technology and engineering, ATSE provides impartial, practical and evidence-based advice on how to achieve sustainable solutions and advance prosperity.

ATSE welcomes the opportunity to respond to the Australian Research Council (ARC) consultation on the treatment of preprints in Excellence in Research for Australia (ERA).

ATSE has previously provided feedback to the 2020 review of the ERA and Engagement and Impact Assessment (EI) frameworks ([Australian Academy of Technology & Engineering, 2020](#)).

This submission outlines the importance of upholding peer review as the gold standard in assessing the quality of research, and makes the following key recommendations:

Recommendation 1: Do not include journal preprints in ERA 2023.

Recommendation 2: Lengthen the reference period and reduce the frequency of ERA.

Recommendation 3: Provide ERA evaluation data and metadata via the ARC's data portal for public access.

The role of preprints in supporting research

Preprints have an increasingly important role in disseminating research findings quickly, establishing time-stamped authorship, and permitting other researchers to build upon and critique research without waiting for the protracted journal publication process. This was apparent during the Covid-19 pandemic in which large volumes of scientific and medical research were being produced and it was of critical importance to provide other researchers with timely access to results (Gianola *et al.*, 2020). Preprints may also be used by authors in applications for grants, jobs, and promotions. This is especially important for early-career researchers, who are within five years post-PhD, to enable their applications to be competitive while their research is awaiting publication. Consideration of preprints also supports funding applications and outcomes to be based on the most current research. In 2021, the ARC determined to allow inclusion of preprints in future National Competitive Grant Program applications, reversing the earlier exclusion of preprints which rendered some grant applications as ineligible for funding (Australian Research Council, 2021).

While it is crucial for preprints to be considered publications for the purposes of assessing grant and other applications, there are compelling reasons for preprints not to be counted equally to published research in ERA.

Ensuring continued excellence through the peer review model

Peer review remains the gold standard for evaluating research. Given that ERA is a measure of research excellence, only journal publications which have withstood this rigorous evaluation should be included in the national measure of research excellence. Given recent concerns surrounding political veto over research grant decisions ([Head *et al.*, 2022](#)), it is more important than ever to maintain the integrity of peer review in determining the merit of research.

The peer review process should have been complete before including any research articles in ERA evaluation. Preprints of sufficient quality will be published in time for the next round of ERA. Including preprints in ERA would create the challenges in subsequent rounds of either managing double-counting (for preprints that proceed to publication) or managing retrospective corrections for preprints that never made it to publication. Inclusion of preprints would also represent an increased workload for universities and evaluation committees, particularly considering the challenges in relation to the citation analysis method given the exclusion of preprints from citation metrics.

Excluding preprints from ERA may raise concerns about currency. However, as ERA is retrospective – as opposed to grant applications that are focused on providing funding to future-focused projects – it is legitimate for there to be a time-delay by design.

Recommendation 1: Do not include journal preprints in ERA 2023.

Comprehensively mapping Australian research outputs

The research outputs reference period for ERA 2023 is the six-year period from 2016 to 2021 (Australian Research Council, 2022). However, having a longer reference period would largely absorb the impact of excluding or including preprints, as most preprints would then be published within the reference period. A longer reference period would also provide a more comprehensive understanding of research output, quality, and engagement. ATSE has previously suggested a ten- to twenty-year reference period for ERA (Australian Academy of Technology & Engineering, 2020).

Recommendation 2: Lengthen the reference period and reduce the frequency of ERA.

Improving transparency with an Open Science approach

The Open Science movement is based on ensuring research and data is widely accessible and transparent (Vicente-Saez and Martinez-Fuentes, 2018). ATSE has previously proposed that incorporating Open Science can improve the value of ERA (Australian Academy of Technology & Engineering, 2020). This would entail the creation of a data portal to that would include the ability to search and export ERA evaluation data and metadata on publications, co-authors, and funding sources.

Applying an Open Science approach to ERA by making its data publicly accessible would facilitate stakeholders being able to interpret data and inform their decision making. For example, stakeholders could access ERA metadata to investigate the gender balance of high performers in a field of research. Should preprints be included in future ERAs, having transparent and accessible metadata available would assist stakeholders to better understand the research outputs landscape.

Future innovations in research outputs and the progression of Open Science may lead to continued consideration of how to best capture different outputs, including preprints, in research evaluation.

Recommendation 3: Provide ERA evaluation data and metadata via the ARC's data portal for public access.

References

Australian Academy of Technology & Engineering (2020) *Review of the ERA and EI assessment frameworks*.

Australian Research Council (2021) *Outcomes of ARC Appeals committee on preprints*.

Australian Research Council (2022) *ERA 2023 Draft Submission Guidelines*.

Gianola, S. *et al.* (2020) "Publish or perish: reporting characteristics of peer-reviewed publications, pre-prints and registered studies on the COVID-19 pandemic." doi:10.1101/2020.06.14.20130823.

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Vicente-Saez, R. and Martinez-Fuentes, C. (2018) "Open Science now: A systematic literature review for an integrated definition," *Journal of Business Research*, 88, pp. 428–436. doi:10.1016/j.jbusres.2017.12.043.