Australian Research Council

Excellence in Research for Australia

Submission Contact Details (required)*

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*Anonymous submissions will not be considered.

1.   ERA 2010 Discipline Matrix

The ERA 2010 Discipline Matrix is available at www.arc.gov.au/xls/
ERA2010_discipline_matrices.xls.

Please indicate any changes you would recommend to the indicator set which was used for relevant disciplines in ERA 2010. Please explain the reasons for any recommended changes.

Note that any additional proposed indicators should be discussed in the general comments section below. This question should be used to recommend any changes to the existing indicator set used for each discipline.

 Response
ACDICT has some concerns about the set of elements in the 08 cluster. The elements do not equally partition the space, nor do they represent the most natural division of ICT research. For example, 0801 artificial intelligence and image processing represent two very distinct communities with different techniques. methods and publication behaviours. Both are larger than 0805, distributed computing. While we appreciate that it will not be possible to change the set of elements in ERA12, we would welcome an opportunity to update the set of elements within 08.

In most of the areas, certainly from 0801 through 0805, conference publications should be included in the Ranked outlets column of the matrix.

ACDICT welcomes further discussion on the efficacy and variability of the various citation services, and notes the emerging literature. Two useful papers are:
J.Freyne et al., "Relative status of Journal and Conference Publications in Computer Science", Communications of the ACM, 2010; 53(11):124-132
A.V. Kulkarni et al., "Comparisons of Citations in Web of Science, Scopus, and Google Scholar for Articles Published in General Medical Journals", Journal of the American

Medical Association, 2009;302(10):1092-109. –
Both of these papers cite other examples of bibliometric research.

ACDICT requests that careful consideration needs to be given to alternative sources of citation data other than Scopus in ERA 2012, and notes that Google Scholar is widely used in Computer Science for assessing promotion applications. We note that for some disciplines (e.g. within Social Sciences, and also Mathematics), peer review has been accepted by ARC as an alternative to citation analysis as a quality indicator for published material. If the chosen citation service does not handle Computer Science conferences, we request that peer review be used.

2.   Cluster Structure

Please indicate any changes you would recommend to the existing cluster structure indicated in the Discipline Matrix, i.e. any Field of Research codes which should be relocated to another cluster. Please explain the reasons for any recommended changes.

Response
The cluster structure, with regards to information and communication technology, is generally considered appropriate, modulo the caveat expressed above about the elements. ACDICT however notes that the publishing practice of researchers in computer science, information systems and mathematics distributes the research outputs into other clusters. This is particularly the case with electrical and electronic engineering (0906) and communication technologies (1005) where computer science , information system and mathematics researchers publish in journals assigned to these FoR codes. A case could be made for the transfer of the communication technologies (1005) and computer hardware (1006) to 08.

3.   Low Volume Threshold

A. Output types for inclusion in the low-volume threshold calculation

Please indicate which option(s) you believe most appropriate for the output types to be used in the low-volume threshold calculation:

  a. No change – calculation based on indexed journal articles for citation analysis disciplines, and all weighted outputs for peer review disciplines;
  b. Include the sum of conference publications and indexed journal articles in the threshold calculation for specified information and computer science disciplines;
  c. Exclude conference publications from the threshold calculation for specified social sciences and humanities disciplines.

Note: options (b) and (c) may both be selected.

Response and additional comments

We advocate (b). The publishing practice in the computer science research community is highly dependent on the leading international conference outlets. Reputation is largely built on the standing in theses international communities, and the influence of the papers from these leading conferences. This practice is widely followed internationally, and not just peculiar to Australia. There are several methods of gaining bibliometric measures for conferences, including through Google Scholar, Microsoft Academic Search and DBLP. Any of these bibliometric tools or combination thereof could be used. If none of these are considered adequate because of lack of consensus, we advocate that conference publication be peer-reviewed.

ICT as a discipline is often applied to other disciplines, and many of the researchers within ICT faculties and departments publish in journals and conferences in other areas. Two examples are bioinformatics and image processing for medicine where material would routinely be published in medical journals.

Consequently ACDICT requests that the ability is granted to universities to recode ICT papers in venues which do not have an 08 code to an 08 code. See *ERA 2010 Submission Guidelines* §5.4.3.1 page 29. We request to adapting §5.4.3.1 to read:

"In the case of journal and conference articles with significant ICT content that are not in journals or conferences coded to an (08) code, institutions may assign one four-digit FOR code from within the 08 set of FOR codes, provided that the institution has determined that the article contains at least 80 per cent ICT content and the journal or conference article is not in a multidisciplinary journal or conference."

B. Four-digit units of evaluation

Subject to your response to the outputs for inclusion at (A) above, please indicate which option you believe most appropriate for the low-volume threshold for ERA 2012 four-digit units of evaluation:

a. No change – threshold remains at 50 apportioned indexed journal articles for disciplines using citation analysis, and 30 apportioned weighted outputs (including 5:1 weighting for books) for disciplines using peer review;

b. Raise threshold for peer review disciplines to 50 apportioned weighted outputs (including 5:1 weighting for books), to align with the threshold for disciplines using citation analysis.

Response and additional comments

We support no change, provided that conference bibliometrics are handled appropriately as discussed previously.

C. Two-digit units of evaluation

Subject to your response to the outputs for inclusion at (A) above, please indicate which option you believe most appropriate for the low-volume threshold for ERA 2012 two-digit units of evaluation:

a. No change – threshold remains at 50 apportioned indexed journal articles for disciplines using citation analysis, and 30 apportioned weighted outputs (including 5:1 weighting for books) for disciplines using peer review;
b. Raise threshold for peer review disciplines to 50 apportioned weighted outputs (including 5:1 weighting for books), to align with the threshold for disciplines using citation analysis;
c. Proportionately raise threshold (with respect to the four-digit threshold) for peer review disciplines to 100 apportioned weighted outputs (including 5:1 weighting for books), and 100 indexed journal articles for disciplines using citation analysis;
d. Do not evaluate at the two-digit level.

Response and additional comments
While we are comfortable with no change, we do feel conference publications in quality conferences should be included in the threshold for computer science at least.

4. <u>Researcher Eligibility</u>

Please indicate which option you believe most appropriate for fractional full-time equivalent staff to be eligible for submission to ERA 2012:

a. No change – definition remains as in ERA 2010;
b. Restrict definition by including a by-line requirement for fractional full-time equivalent staff similar to the existing casual staff by-line requirement;
c. Restrict definition by including a minimum 50% fractional appointment for fractional full-time equivalent staff to be included in ERA submission;
d. Restrict definition by including a requirement that fractional full-time equivalent staff need to have been employed for a period of 12 months or more at the ERA 2012 census date to be included in ERA submission.

Response and additional comments
We advocate no change.

5. <u>Reference Period for income, applied and esteem measures</u>

Please indicate which option you believe most appropriate for the reference period for income, applied and esteem measures in ERA 2012:

a. No change – reference period remains three years, being the final three years of the six-year outputs reference period;

b. Expand reference period to six years, consistent with the outputs reference period.

Response and additional comments

We advocate an expansion of the reference period to eight (8) years. This takes into consideration the length of time it takes to complete the review and publication process in a typical computer science, information system, engineering or mathematics journal. There is additional five (5) years lead time required to build up citation of journal articles in these disciplines.

6. Patents, plant breeder's rights and registered designs

Please indicate which option you believe most appropriate for the eligibility requirements for patents, plant breeder's rights and registered designs:
   a. No change – these measures must have been granted within the reference period to the submitting institution, an institution-owned subsidiary and/or a spin-off company that is associated with the institution;
   b. Expand eligibility to allow for the submission of measures granted within the reference period to eligible researchers submitted by the institution;
   c. Expand eligibility to allow for the submission of measures not yet granted but applied for within the reference period.

Note: options (b) and (c) may both be selected.

Response and additional comments

We advocate no change.

7. Publication of data

Please indicate which option you believe most appropriate for the publication of data from the ERA process:
   a. No change – the ARC continues to publish national- and discipline-level data but no institution-level information other than final ratings. Institutions can continue to choose whether to share their data with others;
   b. Expand reporting to include institutional and/or unit of evaluation level data.

Response and additional comments

We advocate no change.

8. General comments

Please indicate here any other recommendations for the future development of ERA.

ACDICT, the Australian Council of Deans of ICT, is a relatively new organisation, with different challenges from other Councils of Deans due to the wide variation where ICT is

placed in Faculty structures in universities. Nonetheless ACDICT takes a broader perspective than other organistaions that may be providing submissions such as CORE and ACPHIS. ACDICT wishes to continue a constructive dialogue with the ARC.

ACDICT notes that computer science and information systems are relatively young disciplines. The level of granularity of the FoR codes in MIC cannot be justified for the purpose of assessing the quality of research output of the disciplines. A coarser division would better reflect the practice in the discipline.