



Australian Government
Australian Research Council

CONSULTATION PAPER

Consultation

RESEARCH in the national interest ~ enabling the future

ARC Centres of Excellence
for funding commencing in 2011

June 2009

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Chief Executive Officer's Foreword



On behalf of the Australian Research Council (ARC), I am pleased to release the *ARC Centres of Excellence* scheme Consultation Paper.

The *ARC Centres of Excellence* scheme is an important part of the National Competitive Grants Program, under which the ARC administers funding to support the highest-quality research and researchers.

The *ARC Centres of Excellence* scheme specifically funds high quality collaborative research groups through which excellent researchers maintain and develop Australia's international standing in research areas of national priority.

The scheme is an important part of the Australian Government's commitment to advancing Australian research and innovation nationally and internationally for the benefit of the Australian community. The scheme also promotes a high level of collaboration between universities and other organisations in Australia and overseas.

Following the success of the *ARC Centres of Excellence* scheme over the past six years, we are planning to conduct a new round of ARC Centres of Excellence for funding commencing in 2011. To continue the success of this scheme and further develop the scheme to meet today's research priorities, I invite members of the research and higher education sectors, as well as interested members of the public, to submit their views in response to this Consultation Paper.

While reviews of the ARC Centres of Excellence have shown that, as a group, the Centres have satisfied the very ambitious objectives of the scheme, we recognise the importance of bringing the scheme up to the forefront of research funding. This will ensure that the objectives are closely aligned with selection criteria that address today's national and international research priorities.

I look forward to your contribution to this consultation process and your help to ensure that the new round of the *ARC Centres of Excellence* scheme will create Centres of Excellence that will contribute to a sustainable future for all Australians.

A handwritten signature in black ink, which appears to read 'Margaret Sheil'. The signature is fluid and cursive, written over a white background.

Professor Margaret Sheil
Chief Executive Officer
Australian Research Council

Introduction

The ARC is planning to conduct a new round of ARC Centres of Excellence (Centres) for funding commencing in 2011. Successful Centres would receive funding of between \$1 million and \$4 million per annum for up to seven years, subject to periodic review.

Centre rounds are not currently conducted in a regular cycle. Subject to Commonwealth budget funding, a regular cycle of Centre rounds will be introduced.

This paper outlines the proposed operation of the planned new Centres round and any subsequent round and seeks input on aspects of those operations. Whilst the proposed operation is similar in most respects to the current arrangements for Centre rounds, the ARC is considering changes to a number of aspects of the existing arrangements and seeks the views of the research sector. The proposed changes are the subject of this document.

Background

The *ARC Centres of Excellence* scheme was established to support research intended to build national capability in areas of national importance and develop the scale and focus necessary for Australia to achieve international standing in those areas.¹ ARC Centres of Excellence were funded by the ARC under the National Competitive Grants Program (NCGP) in 2003 and 2005. Twenty-four Centres are currently funded under the scheme. Funding for the 2003 Centres will expire in December 2010; funding for the 2005 Centres will expire in December 2013.

The *ARC Centres of Excellence* scheme replaced and extended the following two schemes: the *ARC Key Centres for Teaching and Research* (funding for which finished in 2005) and the *Special Research Centres* (funding for the last cohort of which finished in 2008). In addition, the *ARC Centres of Excellence* scheme is complemented by four co-funded Centres, funded and administered jointly by the ARC and other Australian Government agencies and other partners², and a Centre established in the specific area of policing and security³.

Recent reviews of Centres have shown that, as a group, they have satisfied the ambitious objectives of the scheme. Despite the range of Centre ‘models’ now observed within the group, and notwithstanding the need for occasional refocusing of the activities of individual Centres, the Centres host some of Australia’s (and the world’s) best researchers and have developed some of our most innovative research programs. The 2008 ARC Graeme Clark Research Outcomes Forum highlighted the contributions made by the Centres to the creation of new knowledge and the solution of complex problems⁴.

Context

The ARC is a statutory authority within the Australian Government’s Innovation, Industry, Science and Research portfolio. The ARC advises the Government on research matters and manages the NCGP, a significant component of Australia’s investment in research and development.

The mission of the ARC is to advance Australia’s research excellence to be globally competitive and deliver benefits to the Australian community. The ARC supports the highest quality

¹ See ARC 2002 (p 3) and ARC 2004b (pp 5-6).

² Australian Centre for Plant Functional Genomics, National ICT Australia, the Australian Stem Cell Centre, and the National Centre for Groundwater Research and Training.

³ ARC Centre of Excellence in Policing and Security.

⁴ See ARC 2008.

fundamental and applied research and research training through national competition across all disciplines, with the exception of clinical medicine and dentistry.

ARC funding programs come under the umbrella of the NCGP. The two main funding elements of the ARC comprise Discovery, supporting individual researchers and projects, and Linkage, supporting partnerships between academic researchers and industry, government and community organisations as well as the international community. The *ARC Centres of Excellence* scheme is funded under the Linkage element of the NCGP.

The ARC Chief Executive Officer, Professor Margaret Sheil, is guided on strategic issues, policy matters and matters relating to the evaluation of the quality and outcomes of research and research training by the ARC Advisory Council.

Proposed operation of the *ARC Centres of Excellence* scheme

1. Objectives

Proposal

The ARC proposes to retain the existing objectives of the *ARC Centres of Excellence* scheme, subject to some rephrasing and changes in emphasis.

Issue

Do you agree with the objectives of the *ARC Centres of Excellence* scheme?

The objectives proposed for the 2011 Centres round and any subsequent round are similar in scope and ambition to those of the 2005 round⁵. The ARC will particularly welcome proposals across the full spectrum of disciplines encompassed by the ARC (i.e. all research excluding clinical medicine and dental research). However, the ARC proposes to rephrase the objectives in order to provide a closer link between the objectives and the proposed selection criteria (and subsequently the Centres' reporting requirements and review criteria). The ARC also proposes to enhance the expectations concerning the Centres' collaborative links and standing both nationally and internationally.

The proposed objectives of the 2011 and any subsequent round of the *ARC Centres of Excellence* scheme are as follows:

- undertake highly innovative and potentially transformational research that aims to achieve international standing in the fields of research envisaged and leads to a significant advancement of knowledge in areas of national importance;
- build scale and focus across groups of researchers in the areas of research proposed;
- link existing Australian research strengths and build new capacity for interdisciplinary, collaborative approaches to address the most challenging and significant research problems;
- develop relationships and build new networks with major national and international centres and research programs to help achieve global competitiveness and recognition for Australian research;

⁵ See ARC 2004b.

- build Australia’s human capacity in a range of research areas by attracting, from within Australia and abroad, researchers of high international standing as well as the most promising research students;
- provide high-quality postgraduate and postdoctoral training environments for the next generation of researchers;
- offer Australian researchers access to world-class infrastructure and equipment, and to key research technologies; and
- establish Centres of such repute in the wider community that they will serve as points of interaction among higher education institutions, governments, industry and the private sector generally.

2. Targeting

Proposal

The ARC proposes to continue seeking proposals for Centres from all fields of research (excluding clinical medicine and dental research), although targeted Centres may be accommodated within the broader scheme should circumstances require.

Issues

Do you agree that new rounds of the *ARC Centres of Excellence* scheme should be open to proposals from all fields of research, excluding clinical medicine and dental research?

Existing Centres include a range of problem-focused research programs, not all of which lie directly or predominantly within areas of immediate potential application in industry or the community. The ARC believes that encouraging applicants to propose research programs they regard as innovative and potentially transformational within the national research priority areas, is the optimal way to ensure that the best research is identified and funded.

3. Desired characteristics of Centres

Proposal

The ARC expects Centres to demonstrate the highest quality research and governance and the potential to transform knowledge and practice. Research programs with a higher than normal element of risk should not be excluded from funding on the basis of their increased risk alone.

Issue

Do you agree new rounds of the *ARC Centres of Excellence* scheme should include research programs that carry a higher than normal element of risk, with the proviso that funding could be modified or terminated following a rigorous review process before reaching the maximum funding duration?

The ARC believes Centres should model the best aspects of research, research training, national and international connectedness, management and compliance with national principles relating to

research ethics, intellectual property and the dissemination of the outputs of publicly funded research. The highest standards should be set and achieved.

Accordingly, the ARC expects that successful Centres would demonstrate:

- innovative approaches to complex problems;
- excellence in research planning, management and execution;
- the strategic pursuit of collaborative networks and linkages;
- the flexibility to evolve and adapt to external circumstances and emerging opportunities (including the potential for application of research findings);
- a vibrant research and training environment capable of attracting and retaining world class researchers;
- commitment (not necessarily financial) from other participants in the innovation system; and
- the highest methodological and ethical standards.

Innovative and potentially transformational research is inherently risky. Consequently, the ARC expects that a number of successful Centres would include research objectives that, if achieved, would have the potential to deliver major social, environmental, cultural or economic benefits to Australia.

4. Eligibility

The ARC proposes no substantive change to the list of higher education institutions eligible to administer Centres, to the roles for which eligible researchers may apply or to the researchers who are eligible to apply for those roles. As such, the proposed eligibility arrangements for the Centres round are almost identical to those for the 2005 Centres of Excellence round, as described in the *ARC Centres of Excellence Funding Rules for funding commencing in 2005* (ARC 2004b).⁶

5. Funding

Proposal

The ARC proposes that successful Centres will receive between \$1 million and \$4 million per Centre, per annum.

Issue

Do you agree that the minimum annual funding for a Centre should be \$1 million?

Do you agree that the maximum annual funding for a Centre should be raised from \$3 million to \$4 million?

The ARC believes that a set minimum limit would ensure that successful Centres have sufficient resources to propose substantial research programs. Whilst the ARC also believes that the

⁶ However, note that the ARC proposes to amend the provisions relating to the retention or relinquishment of pre-existing ARC grants to encompass the ARC Future Fellowships, ARC Laureate Fellowships and other relevant ARC Fellowships.

maximum amount of funding should be raised, the average funding level over the life of a Centre is expected to be below \$4 million per annum.

6. Duration of Centres

Proposal

The ARC proposes that the duration of Centres should be raised from five to seven years, with the right to reapply for funding before expiry of that term. Centres will not be extended beyond the seven-year period.

Issue

What do you believe to be the optimal duration of a Centre (assuming that application in subsequent rounds is also possible)?

Centres are currently funded for five years with the possibility of a further extension period. The ARC is considering extending the duration of Centres to a maximum of seven years in order to increase the certainty with which research programs can be developed and high-calibre researchers attracted. Centres would not be extended beyond the maximum seven-year period.

As this proposed lengthening of the duration of Centres would increase the size and risk of the Government's investment, the ARC would expect any such change to be accompanied by a commensurate tightening of reporting and review requirements. As with current review and reporting processes, if performance and/or operations do not meet expectations, Centres may have funding reduced or terminated before the scheduled end date.

To allow sufficient planning time, the ARC proposes Centres seeking a continuation of funding beyond their maximum duration should be eligible to reapply in the next funding round after a successful review in their fourth year.

7. Frequency of Centre rounds

The ARC proposes that, subject to budget availability, Centre rounds would be conducted regularly beginning in 2009-10 (for funding commencing in 2011).

Currently, Centre rounds are not held on a regular basis. The ARC believes that regular Centre rounds would assist planning in the research community as well as in the ARC.

Intervals between rounds will be of sufficient duration to provide a balance between the need to be responsive to new opportunities and the need to minimise the burden on the sector inherent in developing and assessing the complex proposals associated with Centres.

8. Application and assessment

The application and assessment process, including the peer review process, are expected to be similar to those used for the 2005 Centres of Excellence round.

9. Selection criteria

Proposal

The ARC proposes to retain, in broad terms, the existing selection criteria for Centres, subject to some clarification and simplification. The relative importance of each criterion will be indicated by its percentage contribution to the total (weight).

Issue

Do you agree with the proposed selection criteria for Centres?

Do you agree with the proposed weighting of the selection criteria?

The ARC intends to link the selection criteria for Centres more explicitly to the objectives of the scheme and to make it easier for Centres and applicants to compile proposals. The ARC proposes that future funding rules for the *ARC Centres of Excellence* scheme will indicate the weighting assessors will apply to each selection criterion.

The proposed selection criteria and weightings are as follows:

- A. Research program (30%)
 - 1) The innovative and potentially transformational nature of the proposed research program, and its capacity to lead to a significant advancement of knowledge in areas of national importance.
 - 2) The degree to which the proposed research program builds effective scale and focus across groups of researchers in the particular field(s) of research.
 - 3) The extent to which the proposed conceptual framework, design, human resource commitments, methods and analyses, project structures, budget planning and risk mitigation strategies are assembled into an effective and integrated research program.
 - 4) The likelihood that the proposed Centre will attain an international standing in the field of research.
- B. Investigators (20%)
 - 1) The applicants' track records, relative to opportunity, and relevant to the conduct and delivery of the proposed research program.
 - 2) The commitment of Chief and Partner Investigators to the research program.
- C. Governance and leadership (20%)
 - 1) The appropriateness of the organisational structure of the proposed Centre; the adequacy of proposed management arrangements and responsibilities (including reporting arrangements both internally and externally); financial systems and business and strategic plans, which should include draft performance indicators; milestones for achievement of objectives and delivery of outputs and outcomes.
 - 2) The Director's capacity for leadership, vision, management and strategic planning.
 - 3) The relevance of the performance measures listed in the application to the Centre's objectives, projected outputs and outcomes, and their appropriateness for assessing the Centre's performance.

- D. Research training and professional education (10%)
- 1) The potential contribution of the Centre to research training at the Honours, postgraduate and postdoctoral level.
 - 2) The potential value of the education and outreach programs in professional and technical training.
- E. Partner support, end-user engagement and knowledge transfer (10%)
- 1) The level of support and commitment, both in cash and in kind, for the proposed Centre from the Administering Organisation, Collaborating and Partner Organisations.
 - 2) The participation of end-users and partners in strategic research planning and Centre governance.
 - 3) The adequacy of plans and strategies for facilitation of knowledge transfer, knowledge application and, if applicable, technology transfer, including fostering a culture of innovation and outcomes focus.
 - 4) The adequacy of organisational arrangements and plans relating to ownership and potential exploitation of intellectual property and/or utilisation or commercialisation of research.
- F. National benefit and linkages (10%)
- 1) The extent to which the proposed research is likely to expand Australia's knowledge base and research capability.
 - 2) The extent to which the proposed research is likely to contribute to the National Research Priorities.
 - 3) The potential of the research to deliver outcomes of economic, cultural, environmental and/or social benefit for Australia.
 - 4) The potential of the Centre to enhance international linkages that will benefit the research, training and knowledge transfer programs.
 - 5) The planned links with Australian researchers in universities, other research organisations and strategic agencies working in, and applying the outcomes of, the proposed research.

10. **Reporting and reviews**

Proposal

The ARC proposes a regular and rigorous reporting and review schedule over the possible seven-year Centre funding period. Poor report or review outcomes for individual Centres may lead to those Centres having funding reduced or terminated before the scheduled end date.

Issue

Do you agree with the proposed in-principle arrangements for Centre reporting and reviews?

The ARC proposes that successful Centres would be required to report on a range of Key Performance Indicators (KPIs) common to all Centres, as well as Centre-specific KPIs, to be developed within the first twelve months of a Centre’s operation and approved by the ARC. Centres would be required to submit annual reports to the ARC covering both their financial operations and their research performance.

In addition to providing such annual reports, all Centres would undergo a rigorous and comprehensive external performance review arranged by the ARC in their fourth year of operation. Continuation of funding for the remaining three years of Centre operation would be dependent on the outcome of the review. Some Centres may not have funding continued at that point.

11. Title retention

<p>Proposal</p> <p>The ARC proposes that Centres be able to retain the title “ARC Centre of Excellence” for a maximum of three years following the conclusion of funding.</p> <p>Issue</p> <p>Do you agree with the proposed time limit for title retention?</p>
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The ARC proposes that Centres for which funding has ceased be able to retain the title “ARC Centre of Excellence” with ARC approval for a maximum of three years. Only Centres which have received satisfactory reviews and have been funded for the maximum duration of seven years will be eligible to request title retention. Centres approved by the ARC for title retention would be required to submit annual reports for each year of the retention period. A request for title retention would be required within six months of the Centre ceasing to receive funding. Centres retaining their titles would be able to reapply in subsequent Centres selection rounds.

The ARC considers this change to the current unlimited title retention timeframe will reduce the reporting burden for Centres.

12. Timing of new rounds

The ARC proposes to open applications for a Centres round early in the fourth quarter 2009 for funding commencing in January 2011. A submission period of approximately three months is envisaged.

This proposed timing takes into account the application and assessment periods of other major ARC funding rounds.

Submitting comments

To assist the ARC in compiling and analysing the views of individuals and groups on these proposals, respondents are invited to submit their comments using the attached template.

Comments should be submitted by mail or email to the address shown on the template by 21 July 2009.

Any queries concerning the *ARC Centres of Excellence* scheme or the proposals in this document should be directed to:

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Email: centres@arc.gov.au
Ph: (02) 6287 6697

References

Australian Research Council (ARC) 2008, *Outcomes: Results of Research in the Real World*
(<http://www.palamedia.com.au/outcomes/>)

2004a, *ARC-Supported Research: The Impact of Journal Publication Outputs 1996-2000*
(http://www.arc.gov.au/pdf/arc_supported_research.pdf)

2004b, *ARC Centres of Excellence: Funding Rules for Funding Commencing in 2005*
(http://www.arc.gov.au/pdf/CE05_Funding_Rules200704.pdf)

2002, *ARC Centres of Excellence: Funding Rules for Funding Commencing in 2003*
(http://www.arc.gov.au/pdf/COE_Funding_Rules_final.pdf)

Collaboration Working Group of the National Innovation System Review Panel (2008),
Collaborating to a purpose: Review of the Cooperative Research Centres Program,
(<http://www.innovation.gov.au/innovationreview/Documents/CRCReviewReport.pdf>)