



Australian Government

Australian Research Council

Discovery Projects

**Funding Rules for Funding commencing in
2006**

Australian Research Council
Discovery Projects
Funding Rules for Funding commencing in 2006

Table of Contents

Acronyms	4
Key Dates	5
Contacts	5
1. Introduction	6
1.2 Discovery Projects	6
1.3 Fundamental principles and requirements	7
1.3.1 Ethics and Research Practices	7
1.3.2 Duplication	7
1.3.3 Conflict of Interest	7
1.3.4 Acknowledging ARC support	7
2. Changes from last year	8
3. Funding	8
3.1 Level of funding	8
3.2 Duration of Funding	9
3.3 Types of research supported	9
3.4 Areas of investigation/work not supported	9
3.5 Budget items not supported	9
3.6 Number of grants and applications	10
4. Organisational types, roles and eligibility	11
4.1 Eligible Organisations	11
4.2 Host Organisations for Fellows	11
5. Investigator types, roles and eligibility	11
5.1 Early Career Researchers	11
5.2 Applicant Roles	12
5.3 Eligibility criteria for Chief Investigators	12
5.4 Eligibility criteria for Partner Investigators	13
5.5 Eligibility criteria for Fellowships	13
5.5.1 General eligibility	13
5.5.2 Request for eligibility exemption	13
5.5.3 Eligibility criteria for Australian Postdoctoral Fellowships (APDs)	14
5.5.4 Eligibility criteria for Australian Research Fellowships (ARFs)/Queen Elizabeth II Fellowships (QEII)	14
5.5.5 Eligibility Criteria for Australian Professorial Fellowships (APFs)	16
6. Cross-scheme funding	16
6.1 Cross-scheme eligibility	17
6.2 Researchers from Commonwealth-funded research Centres	17
6.2.1 Duplication	17
6.2.2 Substantial association	17
6.3 Funding under the ARC or the NHMRC	18
7. Application process	18
7.1 Eligibility exemptions	18
7.2 Applications	18
7.3 Certification	18
7.4 Submission of applications	18
7.4.1 Application format	19
7.4.2 Application form and instructions to applicants	19

7.4.3	How to complete and submit applications	19
7.4.4	Number of copies	20
7.4.5	Closing date for applications.....	20
8.	Selection and approval process	20
8.1	Selection criteria.....	20
8.1.1	Projects	20
8.1.2	Fellowship(s).....	21
8.2	Assessment and selection procedure	21
8.2.1	Exclusion.....	21
8.2.2	Assignment of assessors.....	22
8.2.3	Applicant rejoinder.....	22
8.2.4	Recommendations	22
8.3	Offer of grant.....	22
9.	Appeals process	22
10.	Administration of grants	23
10.1	Funding Agreement.....	23
10.1.1	Varying the Funding Agreement.....	23
10.1.2	Varying the Funding Approval	23
10.1.3	Reports	24
11.	Other matters.....	24
11.1	Applicable law.....	24
11.2	Confidentiality.....	24
11.3	Project Titles	24
11.4	Intellectual property	24
11.5	Incomplete or misleading information	24
11.6	Insurance and liabilities.....	25
Appendix 1: Descriptions of National Research Priorities and associated Priority Goals..		26
Appendix 2. Eligible Organisations		35
A: Higher Education Organisations		35
B: Other eligible organisations.....		36
Appendix 3. Notional ARC Fellowship Salaries for Funding Commencing in 2006 (2006\$)		37

Acronyms

The following acronyms are used in ARC Funding Rules.

AEST	Australian Eastern Standard Time
AEDT	Australian Eastern Daylight Saving (Summer) Time
AIMS	Australian Institute of Marine Science
ANSTO	Australian Nuclear Science and Technology Organisation
APA	Australian Postgraduate Award
APAI	Australian Postgraduate Award (Industry)
APD	Australian Postdoctoral Fellowship
APDC	Australian Postdoctoral Fellowship (CSIRO)
APDI	Australian Postdoctoral Fellowship (Industry)
APF	Australian Professorial Fellowship
ARC	Australian Research Council
ARCIF	Australian Research Council International Fellowship
ARF	Australian Research Fellowship
AVCC	Australian Vice-Chancellors' Committee
CoE	College of Experts
CI	Chief Investigator
CRC	Cooperative Research Centre
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DSTO	Defence Science and Technology Organisation
ECR	Early Career Researcher
ERISS	Environmental Research Institute of the Supervising Scientist
GA	Geoscience Australia
GAMS	Grant Application Management System
GST	Goods and Services Tax
HECS	Higher Education Contribution Scheme
KCTR	Key Centre for Teaching and Research
LASP	Learned Academies Special Projects
LIEF	Linkage Infrastructure Equipment and Facilities Program
LIF	Linkage Industry Fellowship
NC	Network Convenor
NCGP	National Competitive Grants Program
NHMRC	National Health and Medical Research Council
NP	Network Participant
PI	Partner Investigator
QEII	Queen Elizabeth II Fellowship
SPIRT	Strategic Partnerships with Industry – Research and Training
SRC	Special Research Centres
URL	Universal Resource Locator

Key Dates

Closing date for ARC/NHMRC overlap (Section 6.3) - Friday 14 January 2005 5pm AEDT

Closing date for eligibility exemption requests - Friday 21 January 2005 5pm AEDT

Dates for award of PhD

- ECR (Section 5.1) - After 1 March 2000
- APD (Section 5.5.3) - After 1 March 2002
- ARF/QEII (Section 5.5.4) - After 1 March 1997
- APF (Section 5.5.5) - No restriction on date of award

Closing date for applications - Friday 4 March 2005 5pm AEDT

Last date for letters requesting non-use of an assessor – Friday 4 March 2005 5pm AEDT

Contacts

The ARC deals with many thousands of applications each year. Where possible, applicants should direct requests for information to the Research Office or similar unit within their organisation.

Enquiries about the Discovery Projects scheme may be addressed to:

Discovery Projects Coordinator
Disciplines and Programs
Australian Research Council
GPO Box 2702
CANBERRA ACT 2601

Email: ncgp@arc.gov.au
Phone: 02 6284 6600
Fax: 02 6284 6638
Web: www.arc.gov.au

Australian Research Council
Discovery Projects
Funding Rules for Funding commencing in 2006

1. Introduction

This document sets out the Funding Rules for *Discovery Projects*, a scheme funded under the Australian Research Council's National Competitive Grants Program (NCGP), which comply with the requirements of the *Australian Research Council Act 2001* (the Funding Rules).

Applicants should read and understand the entire Funding Rules and the ARC's standard Funding Agreement [which is available at www.arc.gov.au] before submitting an application to the ARC. Applicants are responsible for ensuring that their applications are complete and accurate.

1.1 NCGP Objectives

The Australian Research Council (ARC) is an Australian Government statutory authority established under the *Australian Research Council Act 2001* (the ARC Act). The primary functions of the ARC, as specified by the ARC Act, are to make recommendations regarding the funding of research programs, to administer funding to support research programs, and to provide policy advice related to research and research training.

The ARC has established a range of competitive funding schemes for the support of research and research training under the framework of the NCGP. A list of current NCGP funding schemes is available on the ARC web site at www.arc.gov.au

By the operation of a range of funding schemes under the NCGP, the ARC aims to:

- a. Maintain and build on existing research and research training;
- b. Build the scale and focus of research and research training;
- c. Encourage inter-disciplinary approaches to research and research training;
- d. Facilitate collaborative approaches to research and research training; and
- e. Support research and research training in the following National Research Priority Areas:
 - i. An Environmentally Sustainable Australia
 - ii. Promoting and Maintaining Good Health
 - iii. Frontier Technologies for Building and Transforming Australian Industries
 - iv. Safeguarding Australia

Full descriptions of these National Research Priority Areas and their associated Priority Goals can be found in Appendix 1, and on the ARC web site (www.arc.gov.au). Assessment of the degree to which a proposed project would contribute to National Research Priority Areas and Priority Goals may be used as part of the selection process in NCGP schemes.

1.2 Discovery Projects

Discovery Projects, which recognises the importance of fundamental research to the national innovation system, is an application-based scheme available for individual researchers or research teams.

These Funding Rules are written on the basis that it is the researcher who is the applicant. However, grants from the ARC are made to organisations (see Section 4.1), not to individual researchers.

Discovery Projects aims to:

- a. support excellent fundamental research by individuals and teams;
- b. enhance the scale and focus of research in the National Research Priorities (Appendix 1);
- c. assist researchers to undertake their research in conditions most conducive to achieving best results;
- d. expand Australia's knowledge base and research capability; and
- e. encourage research training in high-quality research environments.

Discovery Projects provides opportunities for a continuum of activities in order to meet the varied needs of researchers in different disciplines and at different stages of their careers. Where appropriate, *Discovery Projects* emphasises the need for collaboration, and the development of capacity-building partnerships to work on a cohesive research program that will make a major contribution to generating knowledge and ideas. It also allows for projects to be undertaken by individual researchers.

1.3 Fundamental principles and requirements

1.3.1 Ethics and Research Practices

The National Health and Medical Research Council (NHMRC) website, <http://www.nhmrc.gov.au>, provides a series of publications which outline the principles of ethical conduct in research. All research proposals should conform with the principles outlined in:

- a. the Joint NHMRC/AVCC Statement and Guidelines on Research Practice (1997)
- b. as applicable, the NHMRC's National Statement on Ethical Conduct in Research Involving Humans, and
- c. as applicable, the principles outlined in the NHMRC's codes on animal research.

1.3.2 Duplication

The ARC will not duplicate financial assistance for research already funded by the Commonwealth. For information and guidance on the duplication of:

- a. applications, see Section 3.6.e
- b. funding of Commonwealth-funded research Centres, see Section 6.2.1
- c. funding by the NHMRC, see Section 6.3

1.3.3 Conflict of Interest

All applicants associated with ARC funding proposals have an obligation to disclose affiliations with or financial involvement in any organisation with a direct interest in the subject matter or outputs of the researchers. Researchers have an obligation to disclose at the time of applying for an ARC grant, or reporting on it, any conflict of interest which has the potential to influence their research and investigations, publication and media reports, or grant applications.

1.3.4 Acknowledging ARC support

The ARC requires that research funded by the ARC will be appropriately acknowledged. When, at any time during or after completion of a project, the organisation or researcher publishes or produces material such as books, articles, newsletters or other literary or artistic works which relate to the project and/or Fellowship, the organisation or researcher shall acknowledge, at a prominent place in the publication, the support of the ARC in a form acceptable to the ARC. Similar efforts should be made to acknowledge ARC support when participating in television and radio programs, and when interviewed by the print media.

Advice on acceptable forms of acknowledgement and use of the logo is provided on the ARC website at www.arc.gov.au

2. Changes from last year

A number of clarifications and revisions have been made in the 2006 *Discovery Projects* Funding Rules. Significant changes from the 2005 *Discovery Projects* Funding Rules are listed below:

- a. Section 3.6a.iii: Researchers can now be a Partner Investigator on up to four Discovery Projects applications;
- b. Sections 3.6 and 6.2: amendment of the text regarding the number of grants that can be held, including those of researchers in Commonwealth-funded research centres;
- c. Section 6.2.2: specifies the terms ‘associated with’ and ‘substantially associated with’ in regard to contributions to the work of a research Centre, and changes the “20% rule” to a “more than 30% rule”;
- d. Section 5.5.1: Researchers may now apply for Fellowship salaries (plus 26% on-costs) in a project which falls within the research program of a Centre provided that the other research costs of the project are supported by the Centre;
- e. Sections 5.5.4.1 and 5.5.5.1: clarification of the 50/50 salary arrangements for Australian Research Fellowships/Queen Elizabeth II Fellowships and adjustments to the 50/50 arrangements for Australian Professorial Fellowships listed in the Notional ARC Fellowship Salaries for Funding Commencing in 2006 (2006\$) at Appendix 3;
- f. Removal of the requirement for ARF/QEII Fellowship applicants to have more than 3 years’ professional experience since award of PhD, and removal of any restriction on date of award of PhD for Australian Professorial Fellowships;
- g. Section 8.1.1.a.ii: This selection criterion, which requires an assessment of each researcher’s capacity to undertake the proposed research, has been more clearly defined;
- h. Section 8.1.2: Fellowship applicants must now provide reasons for not moving to another organisation to take up their Fellowship;
- i. Section 11.3: clarification that the ARC has the discretion to change project titles and descriptions.
- j. Appendix 3: specifies the Notional ARC Fellowship salary rates for Fellowships commencing in 2006, and relocation expenses;

The ordering of a number of sections and sub-sections has been altered as part of an ongoing initiative to enhance consistency and common terminology across all NCGP funding schemes. Minor changes in wording and dates have been introduced throughout the Funding Rules.

3. Funding

3.1 Level of funding

The minimum grant size is \$20,000 per annum and the maximum is \$500,000 per annum. The ARC reserves the right to determine the level of funding allocated to the project from within the above funding spectrum.

Applicants seeking a Fellowship under *Discovery Projects* should include a request for the fellowship salary component in the budget (see Appendix 3 for Notional ARC Fellowship Salaries for Funding Commencing in 2006).

3.2 Duration of Funding

Discovery Projects grants may be awarded for 1 to 5 years, subject to parliamentary appropriations. Australian Postdoctoral Fellowships (APDs) have a standard duration of 3 years, but a 4-year research and teaching option is available. Australian Research Fellowships (ARFs), Queen Elizabeth II Fellowships (QEIIIs), and Australian Professorial Fellowships (APFs) have a standard duration of 5 years.

The ARC may recommend project grants for a duration different from that requested.

3.3 Types of research supported

Discovery Projects supports excellent research including:

- a. pure basic research which is experimental and theoretical work undertaken to acquire new knowledge primarily for the advancement of knowledge;
- b. strategic basic research which is experimental and theoretical work undertaken to acquire new knowledge directed into specified broad areas that are expected to lead to useful discoveries. It provides the broad base of knowledge necessary to solve recognised practical problems; and
- c. applied research which is original work undertaken primarily to acquire new knowledge with a specific application in view. It is undertaken either to determine possible uses for the findings of basic research or to determine new ways of achieving some specific and predetermined objectives.

3.4 Areas of investigation/work not supported

Discovery Projects does not support the following work:

- a. clinical medicine and dental research that are covered by the NHMRC;
- b. activities leading solely to the creation or performance of a work of art, including visual art, musical compositions, drama, dance, designs and literary works, for which Commonwealth Government support is provided through the Australia Council for the Arts;
- c. scholarly investigations that, while important in themselves, do not lead to conceptual advances or discoveries, or to novel practical outcomes or applications. Projects such as uncritical biographical compilations and purely descriptive catalogues or editions that do not involve original research are not funded;
- d. production of teaching materials, even though some research may be involved in their production;
- e. compilation of data, unless this is an integral part of a project, in which case applicants must provide a statement indicating the research objectives to which the data would contribute;
- f. development of research aids and tools (including computer programs), unless they form an integral part of a project, in which case applicants must provide a statement indicating the research objectives to which these activities would contribute.

3.5 Budget items not supported

Discovery Projects does not support the following budget items:

- a. Salaries of Chief Investigators and Partner Investigators.
The Commonwealth will not provide support, in whole or in part, to meet the salaries of Chief Investigators (CIs) or Partner Investigators (PIs) under *Discovery Projects*.
- b. Teaching.
Discovery Projects funding is not provided to fund teaching. However, the ARC may consider a request for teaching relief for a period of not more than 6 months a year. The request must be fully justified in terms of achieving a successful outcome for the project. If approved, the funding contribution is limited to the maximum base rate of \$31,070 (2005\$) for 6 months, regardless of the level of appointment of the staff member, and is a special condition on the grant. Only funds specifically approved for teaching relief may be used for that purpose.

- c. Special Studies/Study Leave Programs.
Funds are not provided for travel or related expenses for researchers when on a Special Studies Program. In well justified cases some specified costs may be supported within a *Discovery Projects* grant provided a CI can show that such expenses are not covered by a Special Studies Program grant and that the research to be undertaken directly relates to the project. In these cases the use of funds needs to be approved as a special condition of the grant.
- d. Research support for Partner Investigators apart from short-term project support for investigators visiting from overseas.
- e. International students' fees and Higher Education Contribution Scheme (HECS) liability.
Funds are not provided to pay the fees of international students or the HECS liabilities for Australian students.
- f. Computer facilities for molecular analysis.
Applicants for projects involving molecular biology should be aware that the Australian National Genomic Information Service provides access to a range of databases and a large suite of analysis programs. As this service is available at modest cost, proposals seeking funding for computer facilities to undertake molecular analysis will have to justify such needs very thoroughly.
- g. Basic facilities.
The administering organisation must certify its agreement to provide the following basic facilities, which will not be funded under *Discovery Projects*:
 - i. accommodation (e.g. laboratory and office, suitably equipped and furnished in standard ways)
 - ii. access to standard workshop services (e.g. machine tools and qualified technicians available to each member of staff, according to need, for research)
 - iii. access to film or music editing facilities
 - iv. access to a basic library collection
 - v. standard reference materials or funds for abstracting services
 - vi. adequate access to computers (excluding access to high-performance computers)
 - vii. basic computing, word processing and microfilm reading facilities
 - viii. use of photocopiers, telephones, mail, fax, email and internet services.
- h. Publication costs.
Publication costs, including page costs, are not funded under *Discovery Projects*.

3.6 Number of grants and applications

- a. The following limits apply to grants awarded under *Discovery Projects*:
 - i. A researcher may not hold more than two *Discovery Projects* grants on which she/he is a CI or ARC Fellow;
 - ii. A researcher may not hold more than one *Discovery Projects* grant on which she/he is the sole CI or sole ARC Fellow;
 - iii. A researcher may not be named as a PI on more than four *Discovery Projects* grants (note: a researcher who is eligible to be a CI is not eligible to be a PI in the same application round).
 - iv. Subject to Section 3.6.a.v, a researcher who is eligible to be a CI or an ARC Fellow may not hold more than one *Discovery Projects* grant, in addition to her/his Fellowship, if she/he also has a substantial association with a Commonwealth-funded Research Centre such as an ARC Centre or holds an NHMRC Program grant. (See section 6.2 for researchers from Commonwealth-funded research Centres.)
 - v. A Federation Fellow may apply for and hold up to two *Discovery Projects* grants (one may be as a sole CI), in addition to her/his Federation Fellowship.
- b. Applicants may apply for *Discovery Projects* grants only to the extent that, if all were successful, they would not hold more than the maximum number of grants permitted in 2006.
- c. Every application must have at least one CI or Fellowship applicant.

- d. Only one application to *Discovery Projects* may be submitted in respect of a single project in the same year, regardless of any variation in the applicants and/or proposed administering organisation.
- e. Submitting similar or duplicate applications may result in the exclusion of all applications involving those applicants. The ARC reserves the right to determine whether applications are duplicates or sufficiently similar to warrant exclusion.
- f. Submitting applications that exceed the limits listed above in 3.6.a.i-v may result in the exclusion of all applications involving that applicant as a CI, PI or Fellow.

4. Organisational types, roles and eligibility

4.1 Eligible Organisations

To be eligible for consideration, each application in *Discovery Projects* must be submitted by an organisation which is eligible to receive and administer ARC financial assistance (an Eligible Organisation). Appendix 2 lists the Eligible Organisations for *Discovery Projects*.

4.2 Host Organisations for Fellows

All ARC Research Fellowships available in *Discovery Projects* are tenable at Eligible Organisations (listed in Appendix 2).

It is possible to hold an APD or QEII Fellowship at an organisation not listed in Appendix 2 if, in the opinion of the ARC, that organisation provides an appropriate research training environment. Examples of such organisations include, but are not limited to, Commonwealth-funded research organisations or State/Territory-funded research organisations such as:

- i. Defence Science and Technology Organisation (DSTO)
- ii. Commonwealth Scientific and Industrial Research Organisation (CSIRO)
- iii. Geoscience Australia (GA)
- iv. Australian Nuclear Science and Technology Organisation (ANSTO)
- v. Australian Institute of Marine Science (AIMS)
- vi. State/Territory Research and Development organisations.

Researchers who apply for an APD or QEII Fellowship at such an organisation may apply only for Fellowship salary and 26% on-costs.

Researchers who wish to apply for research funding in addition to a Fellowship salary must apply through an Eligible Organisation (listed in Appendix 2).

5. Investigator types, roles and eligibility

5.1 Early Career Researchers

The ARC has identified funds within *Discovery Projects* specifically for Early Career Researchers (ECRs) applying individually or in collaboration only with other ECRs. An ECR-Only application is an application on which all investigators, CIs, PIs and Fellows are ECRs.

The definition of an ECR is a researcher holding a PhD, or equivalent research doctorate, awarded since 1 March 2000. Applicants not satisfying this definition who wish to claim ECR status must present their case within their application (see *Instructions to applicants for funding commencing in 2006*). Circumstances establishing ECR status beyond the definition could include career interruptions due to non-research employment, misadventure or carer responsibilities, or a research

career not preceded by the award of a PhD or equivalent research doctorate. The ARC reserves the right to determine the ECR status of applicants based on the case presented within the application. Applications making unsuccessful claims for ECR status will be processed as non-ECR applications.

ECR-Only applications are assessed in the same manner as other applications according to the *Discovery Projects* selection criteria as set out in Section 8.1.

An applicant who is an ECR may apply for funding in association with non-ECR applicants. Such an application is not an ECR-Only application.

5.2 Applicant Roles

There are various applicant roles available under *Discovery Projects*. These are:

- a. Chief Investigator (CI)
- b. Partner Investigator (PI)
- c. Research Fellows:
 - i. Australian Postdoctoral Fellow (APD)
 - ii. Australian Research Fellow/Queen Elizabeth II Fellow (ARF/QEII)
 - iii. Australian Professorial Fellow (APF).

The role and eligibility requirements for each of these are described in Sections 5.3, 5.4 and 5.5.

5.3 Eligibility criteria for Chief Investigators

To be eligible to apply as a CI, the applicant must meet the following criteria:

- a. She/he must be a researcher who takes intellectual responsibility for the project, its conception, and any strategic decisions called for in its pursuit and the communication of results. The applicant must have the capacity to make a serious commitment to the project and cannot assume the role of a supplier of resources for work that will largely be placed in the hands of others. The ARC reserves the right to rule on the question of capacity;
- b. She/he must reside predominantly in Australia for the full term of the grant. If the applicant does not have permanent resident status she/he must obtain temporary resident status from the Department of Immigration and Multicultural and Indigenous Affairs before taking up the grant;
- c. She/he must meet at least one of the following three criteria:
 - i. be an employee of an Eligible Organisation (listed in Appendix 2) and derive at least 50 per cent of her/his salary from, that Eligible Organisation; or
 - ii. be a holder of an adjunct appointment, or equivalent, at an Eligible Organisation; or
 - iii. be the holder of a Federation Fellowship.

Notwithstanding her/his eligibility under the criteria above, researchers are not eligible to apply as a CI if they are undergraduate students or postgraduate students (unless eligible to be a CI because of employment and then only for research which lies outside the scope of the postgraduate studies). Researchers who derive more than 50 per cent of their salary from organisations outside the higher education sector that are funded primarily for research from State/Territory or Commonwealth Government sources are also not eligible to apply as a CI. Such organisations include, but are not limited to, DSTO, CSIRO, GA, ANSTO, AIMS, State/Territory Research and Development organisations.

Chief Investigators must have fulfilled to the satisfaction of the ARC all obligations from previous ARC grants (including progress and final reports).

A researcher who is eligible to be a CI is not eligible to be a PI in the same application round.

5.4 Eligibility criteria for Partner Investigators

Researchers who are not eligible to be a CI but who are providing significant commitment, intellectual input, relevant expertise and significant financial contribution to the project can apply as PIs. To be eligible to apply as a PI, a researcher must:

- a. be ineligible to be a CI in that application round, and
- b. demonstrate a significant contribution of funds (other than salary) or other material resources from the researcher's organisation for the proposed project (having regard to the total cost of the project and the relative contribution of each CI).

5.5 Eligibility criteria for Fellowships

5.5.1 General eligibility

Fellowship applicants must meet the eligibility criteria in Sections 5.3a and 5.3b for CIs.

Applicants should hold a PhD or equivalent research doctorate. Applicants for ARF/QEII or APF awards who do not hold a PhD or equivalent research doctorate would need to demonstrate that their research record is equivalent to a PhD or equivalent research doctorate. (Refer to Sections 5.5.4 and 5.5.5 below.)

Fellows must reside predominantly in Australia for the full term of the grant. If the applicant does not have permanent resident status she/he must obtain temporary resident status from the Department of Immigration and Multicultural and Indigenous Affairs before taking up the grant.

The ARC wishes to ensure that the research proposed by those appointed as Fellows, particularly those appointed at APF level, is among the highest quality supported by the ARC and that their proposed research is adequately funded. Hence, applicants who apply for a Fellowship but not for a Research Grant must demonstrate how their research will be supported.

Fellowship applicants who are seeking to be associated with a Commonwealth-funded research Centre, or who are currently associated with a Centre, may apply for a Fellowship salary plus 26% on-costs (see Appendix 3) to undertake research within a Centre's research program. These Fellowship applicants may apply for the salary component of their project provided that the other research costs of the project are fully funded by the Centre. These Fellowship applicants may apply only for the 100% salary option (all Fellowship categories). For these Fellowship applications a letter is required from the Centre Director confirming that the Fellow, if successful, will have her/his research costs funded by the Centre for research on a Centre project. If the letter does not accompany the application for Fellowship salary then the application may be deemed ineligible.

See Section 4.2 for information on host organisations for Fellows.

5.5.2 Request for eligibility exemption

In some circumstances, an applicant who is seeking a Fellowship may not satisfy the eligibility criteria due to research career interruption. Career interruptions could include, for example, non-research employment, misadventure or carer responsibilities. If this is the case, an applicant must apply for an exemption from the eligibility criteria or the applicant will be declared ineligible.

If the applicant requires an eligibility exemption, a request must be lodged in writing, through the organisation's Research Office, with the Discovery Projects Scheme Coordinator at the ARC by **Friday 21 January 2005**. The eligibility exemption request must include a statement justifying the applicant's special circumstances for an eligibility exemption and should describe the research

experience gained since the award of a PhD or equivalent qualification. The applicant will be advised of the decision as soon as possible to allow time for a detailed application to be completed.

If, after reading these Funding Rules, an applicant is unsure if she/he is eligible for a particular Fellowship, she/he should consult her/his organisation's Research Office in the first instance for advice.

5.5.3 Eligibility criteria for Australian Postdoctoral Fellowships (APDs)

APDs provide opportunities for researchers at the postdoctoral level to undertake research of national and international significance, and to broaden their research experience.

An Australian or overseas researcher may apply for an APD to commence in 2006 if:

- a. she/he has been awarded a PhD since 1 March 2002, or
- b. she/he has not yet submitted a PhD thesis but is expected to do so before the end of 2005.

If an APD offer is made, it will be contingent upon receiving official confirmation that the thesis has been submitted by 31 December 2005. An APD cannot be taken up until formal advice is received that the PhD has been awarded, within a maximum time limit of 6 months, that is, by 30 June 2006. If these conditions have not been satisfied, the offer will be withdrawn.

5.5.3.1 Tenure details and support entitlements

APDs are tenable only on a full-time basis. APD Fellowships must commence their research activities in the first year of the grant.

The ARC notional salary rates for APDs are set out in Appendix 3. There is a choice of salary support options for APD:

- a. 100 per cent salary and salary-related on-costs from the ARC for a standard tenure of 3 years
- b. 75 per cent salary and salary-related on-costs from the ARC and 25 per cent from the host university over 4 years (research and teaching option).

The ARC contribution to the 4-year research and teaching option will be 75 per cent of the approved APD salary plus 75% of salary-related on-costs. In view of resource implications, any intending applicant must discuss the feasibility of this option with her/his Head of Department. Funding will be continued, provided the ARC receives satisfactory annual progress reports, but will not be extended.

An APD, APDI or APDC may apply for an ARF/QEII in the final year of her/his Fellowship.

5.5.3.2 Selection

The ARC may give preference to applicants who intend to move to an organisation other than the one where their PhD was obtained, in order to take up the Fellowship, and/or who have had research experience at more than one organisation. Applicants should provide a justification of their choice of organisation, particularly if no change of organisation is planned.

An APD, APDI or APDC may be awarded to an applicant only once.

5.5.4 Eligibility criteria for Australian Research Fellowships (ARFs)/Queen Elizabeth II Fellowships (QEII)s

ARFs and QEII)s provide opportunities for established researchers to undertake research of national and international significance and encourage research in Australia by postdoctoral graduates of exceptional promise and proven capacity for original work.

Applicants must have an excellent academic record and have been awarded a PhD or equivalent research doctorate.

At the time of application, applicants should have not more than 8 years' professional experience since the award of their PhD unless they are current ARC APD or APDI or APDCs in the final year of their Fellowship. APD, APDI or APDC Fellows may apply for an ARF/QEII in the final year of their APD, APDI or APDC.

ARFs and QEIIs may hold an ARF or QEII only once. They are eligible to apply for an APF in their final year.

5.5.4.1 Tenure details and support entitlements

ARFs and QEIIs are tenable only on a full-time basis. ARFs/QEIIs must commence in the first year of the grant.

ARFs/QEIIs have a standard tenure of 5 years, provided the ARC receives satisfactory annual progress reports. Funding will not be extended. The ARC notional salary rates for ARFs/QEIIs are set out in Appendix 3.

Researchers who have a non-continuing position or no position at the time of application may apply for 100 per cent salary and salary-related on-costs from the ARC.

Researchers who have a continuing position at the time of application may apply for either:

- a. 50 per cent salary; or
- b. 100 per cent salary.

In the case of the 50:50 salary option, the ARC will enter into an agreement with the Fellow's host organisation and the ARC will provide 50 per cent of the Fellow's salary and salary-related on-costs up to the limit listed in Appendix 3. This must at least be matched by the Fellow's host organisation. Fellows on the 50:50 option still work on their research on a full-time basis.

Applicants who hold a continuing research-only position at any university are not eligible to apply for ARC 50:50 Fellowships.

In the case of the 100 per cent salary option, successful Fellowship applicants with a continuing position must resign the existing continuing position before taking up the award.

In all cases, the Fellow would be expected to work full-time on research and research-related activities. Research-related activities could include supervision of postgraduate students.

5.5.4.2 Selection

Preference may be given to Australian citizens and permanent residents for ARF Fellowships. Overseas applicants will need to demonstrate a higher level of performance than their competitors or be able to offer special expertise, extensive skills or exceptionally high performance levels not available locally and of benefit to Australian research.

The competition for QEII Fellowships is open. Citizenship is not considered in the assessment of performance.

The ARC may give preference to applicants who intend to move to an organisation other than the one where their PhD was obtained, in order to take up the Fellowship, and/or who have had research experience at more than one organisation. Applicants should provide a justification of their choice of organisation, particularly if no change of organisation is planned.

5.5.5 Eligibility Criteria for Australian Professorial Fellowships (APFs)

APFs provide opportunities for outstanding researchers with proven international reputations to undertake research that is both of major importance in its field and of significant benefit to Australia.

At the time of application, applicants must be either: Australia-based researchers who have an internationally competitive research record, or high-profile non-Australian, or expatriate Australian, researchers who wish to pursue their research in Australia.

APFs may be held only once.

5.5.5.1 Tenure details and support entitlements

APFs are tenable only on a full-time basis. APFs must commence in the first year of the grant.

Subject to the ARC's receiving satisfactory annual progress reports, the tenure of an APF will be 5 years. Tenure will not be extended. The ARC notional salary rates for APFs are set out in Appendix 3.

Researchers who have a non-continuing position or no position at the time of application may apply for 100 per cent salary and salary-related on-costs from the ARC.

Researchers who have a continuing position other than a research-only position at the time of application may apply for either:

- a. 50 per cent salary (plus on-costs); or
- b. 100 per cent salary (plus on-costs).

In the case of the 50:50 salary option, the ARC will enter into an agreement with the Fellow's host organisation. The ARC will provide no more than 50 per cent of the Fellow's salary and salary-related on-costs as listed in Appendix 3. This salary must be at least matched by the Fellow's host organisation. Fellows on the 50:50 option still work on their research on a full-time basis.

Applicants who hold a continuing research-only position at any university are not eligible to apply for ARC 50:50 Fellowships.

In the case of the 100 per cent salary option, successful Fellowship applicants with a continuing position must resign the existing continuing position before taking up the award.

In all cases, the Fellow would be expected to work full-time on research and research-related activities. Research-related activities could include supervision of postgraduate students.

5.5.5.2 Selection

Preference for APFs may be given to Australian citizens and permanent residents. Non-resident, non-Australian citizen applicants will need to demonstrate a higher level of performance than their competitors or be able to offer special expertise, extensive skills or exceptionally high performance levels of benefit to Australian research and not available locally.

6. Cross-scheme funding

The ARC will not duplicate financial assistance for research already funded by the Commonwealth. The ARC reserves the right to determine if a proposed research project duplicates research already being funded. It may declare ineligible, or reduce funding to, any such proposal.

6.1 Cross-scheme eligibility

If a funding request for any project, salary or equipment is being submitted to another ARC scheme or to any other funding body, each application must be cross-referenced. Applicants must indicate the level of funding obtained, or being sought, from all other schemes and must list all existing research funding from all sources. If these processes are not observed, the *Discovery Projects* application may be deemed ineligible.

The ARC may liaise with other funding agencies to discuss any overlap between applications in order to avoid duplication of funding.

6.2 Researchers from Commonwealth-funded research Centres

Commonwealth-funded research Centres include, but are not limited to, ARC Centres of Excellence, ARC Centres, NHMRC Program grants and CRCs. They support programs of research consistent with the initial Centre application, the funding agreement and/or the Business Plan/Research Plan or Annual Report of the Centre.

6.2.1 Duplication

Discovery Projects will not fund research already funded by a Commonwealth-funded research Centre or which could reasonably be expected to be supported by the Centre given its research program and its level of funding. The proposed research must not duplicate work that is funded by or forms part of the proposed funded work of the Centre as reported in the Centre application, funding agreement and/or Annual Report. Note however that Fellowship applicants who are seeking to be associated with a Centre, or who are currently associated with a Centre, may apply for a Fellowship salary plus 26% on-costs (see Appendix 3) to support research they wish to undertake within a Centre's program, see Section 5.5.1.

Each *Discovery Projects* application, on which there is an applicant who is associated, or substantially associated (see 6.2.2 below), with a Commonwealth-funded research Centre, must be accompanied by a letter from the Centre Director which describes the relationship between the proposed research and the projects funded by the Centre, and states that "the proposed research does not duplicate work that is already funded or could reasonably be expected to be funded by the Centre". This letter should be no longer than one page. Failure to provide a letter may render the *Discovery Projects* application ineligible.

The ARC reserves the right to make the final decision on whether a proposal duplicates work funded as part of a Commonwealth-funded research Centre. Should the information contained in the *Discovery Projects* application, the accompanying letter from the Director and/or the Centre Annual Report be found inaccurate or misleading in a material way, any grant awarded may be terminated, and the Director may be asked to show cause why any ARC funding for the Centre should not be terminated.

6.2.2 Substantial association

For the purpose of these rules, the term 'associated with' refers to those who contribute to the work of the Centre and whose contributions form part of the output of the Centre for annual reporting and evaluation purposes. The term 'any researcher substantially associated with' includes the Director and Deputy Directors in the initial Centre application (as subsequently modified and reported to the ARC) and researchers who receive more than 30% of their salary from the Centre.

The ARC reserves the right to determine which researchers are substantially associated with a Centre and also reserves the right to take into account the magnitude of in-kind contributions when

making a determination as to whether an application is substantially associated with a Centre (see section 8.1.1.a.ii).

6.3 Funding under the ARC or the NHMRC

In some instances, it may not be clear whether an application is more appropriately considered by the ARC or the NHMRC. In these cases, the applicant should forward a two-page summary outlining the proposal through her/his organisation's Research Office to the ARC by **Friday 14 January 2005**. A committee comprising representatives from the ARC and the NHMRC will use the summary to decide which agency is more appropriate for the application. Each applicant will be advised of the decision approximately 2 weeks after the due date for such requests.

If the applicant fails to meet the above deadline, she/he must submit cross-referenced applications, using the same title, to both the ARC and the NHMRC and must declare the dual submission on the ARC application form. Failure to do so will render the application ineligible. The ARC will determine if it is the appropriate funding agency. If an application has potential clinical overlap and neither of the above processes is observed, the application may be excluded, regardless of whether or not it falls under the aegis of the ARC.

7. Application process

7.1 Eligibility exemptions

If an applicant requires a Fellowship eligibility exemption, a request must be lodged with the ARC by **Friday 21 January 2005**. See Section 5.5 for more information.

7.2 Applications

Applicants must submit their proposal as a mature plan ready for implementation. The application must contain all the information necessary for assessment of the project without the need for further written or oral explanation, or reference to additional documentation unless requested by the ARC or its College of Experts.

All details in the application, including employment details, must be current at the time of submission.

Applications must not be marked commercial-in-confidence as, if so, they cannot be assessed under the ARC procedures for peer assessment and will be excluded.

7.3 Certification

It is the legal responsibility of the administering organisation to obtain signatures of all participants named in Part B of the application form. These signatures are to be retained by the administering organisation which must provide these certifications if requested. A pro forma is available for this purpose on the ARC web site (www.arc.gov.au).

7.4 Submission of applications

Applications under *Discovery Projects* consist of two parts:

- a. Application form: to be completed in the ARC's Grant Application Management System (GAMS)
- b. Additional text:
 - i. Section B10, 'Research record relative to opportunities';

- ii. Sections C2 and C3, 'justifications of funding requested from the ARC' and 'details of non-ARC contributions';
- iii. Part E, 'Project description'.
- iv. If applicable, supporting documentation:
 - Section B4.3, letter from Centre Director for any participants associated with a Commonwealth Government-funded research Centre
 - Section D2, 'reports on ARC grants'

7.4.1 Application format

All documents must be written in English and must comply strictly with the format and submission requirements.

All pages of additional text should be in black type, use a single column and 12-point font size on white A4 paper, be printed on one side only and unbound, with at least 2 cm margins on each side. As applications are scanned electronically, applicants must use a highly legible font type, such as Arial, Courier, Palatino, Times New Roman and Helvetica. Variants such as mathematical typesetting languages may also be used. References may be reproduced in 10-point font size. Colour graphs or colour photographs may be included but they will be reproduced in black and white and the reproduction quality may be degraded. Note: fine graphics and grey scale may also not be precisely reproduced.

7.4.2 Application form and instructions to applicants

Applicants must use the application form completed within GAMS at the ARC web site (www.arc.gov.au).

Applicants should note that a separate document, *Discovery Projects Instructions to Applicants for Funding Commencing in 2006*, will be available from www.arc.gov.au to assist in preparing applications.

7.4.3 How to complete and submit applications

Discovery Projects application forms are produced using the ARC's web-based GAMS. Applicants should submit their applications through their organisation's Research Office by their internal closing date. Research Offices have access to GAMS and will allocate GAMS User IDs and passwords to enable applicants at their organisation to access the system and create applications. If an applicant has previously been allocated access to GAMS, her/his User ID and password should still be current. Applicants who may not have a GAMS ID should first contact their Research Office/GAMS Contact. If they do not have a Research Office they should email gamsids@arc.gov.au

Research Offices should submit application forms in GAMS and forward the full paper application and copy which must identically match the contents of the GAMS application form. Applications should be sent:

by mail, to

Discovery Projects Coordinator
Disciplines and Programs
Australian Research Council
GPO Box 2702
CANBERRA ACT 2601

by courier, to

Discovery Projects Coordinator
Disciplines and Programs
Australian Research Council
Geoscience Australia Building
Cnr Hindmarsh Drive and
Jerrabomberra Avenue
SYMONSTON ACT 2609

7.4.4 Number of copies

An original and one identical paper copy are required. The application must be clipped with NAL clips, not stapled. The application form completed in GAMS should be submitted with the additional text, including supporting documentation, interleaved appropriately and the pages numbered sequentially starting at the beginning of the application (see *Discovery Projects Instructions to Applicants for Funding Commencing in 2006*).

7.4.5 Closing date for applications

Paper originals of the applications for *Discovery Projects* must be received by the ARC, and the application form completed using GAMS must be submitted, by 5.00 pm (AEDT) **Friday 4 March 2005**. Applications may be withdrawn but may not be changed after submission. Additions, deletions and modifications will not be accepted after submission. Applications received after 5.00 pm (AEDT) **Friday 4 March 2005** will not be accepted. The ARC may, in its absolute discretion, extend closing dates for applications. In such cases, the ARC will advise potential and registered applicants via its website [www.arc.gov.au].

8. Selection and approval process

8.1 Selection criteria

8.1.1 Projects

- a. The primary assessment criteria for projects are:
 - i. Investigator(s) (40%)
 - ii. Project content: (30%)
 - significance and innovation (30%)
 - approach (20%)
 - national benefit (10%)
- b. Investigator(s) (40%)
 - i. track record relative to opportunities
 - ii. capacity to undertake the proposed research, including overall relation to commitments to other research programs, teaching, committee memberships and administrative duties
- c. Project Content (60%) made up of
 - i. Significance and innovation (30%)
 - does the research address an important problem?
 - how will the anticipated outcomes advance the knowledge base of the discipline?
 - is the research principally focussed upon a topic or outcome that falls within one of the National Research Priorities and associated Priority Goals, and if so how does it address the National Research Priority?
 - are the project aims and concepts novel and innovative?

- will new methods or technologies be developed?
- ii. Approach (20%)
 - are the conceptual framework, design, methods and analyses adequately developed, well integrated and appropriate to the aims of the project?
- iii. National benefit (10%)
 - what is the potential of the research project to result in economic and/or social benefits for Australia from the expected results and outcomes of the project?
 - what is the potential for the research to contribute to the National Research Priorities?

8.1.2 Fellowship(s)

The number of fellowships available is restricted. Assessment of fellowship applications is based on the excellence of the applicant's track record and the excellence of the project. Fellowship applicants must provide details, in the text of their application (at Section B10.6 of the application), of:

- a. their contribution to the project,
- b. the research environment of their host organisation, and
- c. reasons for not moving to another organisation if they intend to remain at their current organisation.

8.2 Assessment and selection procedure

Assessment of applications is undertaken by the ARC, which has the right to make decisions solely on the basis of its expertise, and which may:

exclude ineligible applications;

- a. assign independent readers/assessors to review the applications;
- b. seek applicants' comments on assessors' reports;
- c. rank each application relative to the others on the basis of the application, the assessors' reports and the applicant's rejoinder/response to these assessments;
- d. assess and recommend budgets; and
- e. prepare funding recommendations that are submitted to the ARC Board.

The ARC has procedures for managing organisational and personal conflicts of interest experienced by College of Experts members, and for enabling members to withdraw from the assessment process of particular applications.

8.2.1 Exclusion

Exclusion of applications by the ARC may take place at any time during the selection process. Applications which contravene the Funding Rules in any way may be excluded. The ARC will determine if the breach of the Funding Rules has a potential material impact on the assessment of the application. If it is so determined the application will be excluded. Grounds for exclusion include, but are not limited to:

- a. failing to submit the application through the appropriate Research Office/Chief Executive Officer for certification
- b. submitting similar or duplicate applications
- c. exceeding the limits on the number of applications permissible
- d. not meeting the eligibility criteria
- e. submitting applications in clinical medicine and dental research and training (refer to Section 6.3)
- f. providing incomplete, inaccurate or misleading information (refer to Section 11.5);
- g. designating all or any part of the application as 'commercial-in-confidence'
- h. not meeting the funding threshold when inappropriate budget items are removed.

8.2.2 Assignment of assessors

Each application not initially excluded may be assessed by a number of external assessors. Assessors for each discipline grouping will be drawn from a range of organisations to minimise potential conflicts of interest. Applications will be assessed against the selection criteria and the reports by the assessors must include written comment.

Although an effort will be made to obtain external assessments, the ARC reserves the right to make decisions based on any number of assessments or solely on the assessment of the ARC.

Applicants may name any person whom they do not wish to assess the application. Detailed written justification, which will be considered by the ARC, must be submitted through the administering organisation's Research Office, in a separate letter, and it must not accompany the application. The letter must be received by the closing date for applications, **Friday 4 March 2005**, and be sent to:

Discovery Projects Scheme Coordinator
Disciplines and Programs
Australian Research Council
GPO Box 2702
CANBERRA ACT 2601

The ARC will consider the justification put forward by an applicant to exclude any person as an assessor. However, the ARC may not give effect to an applicant's request.

8.2.3 Applicant rejoinder

The assessors' textual comments will be provided to the administering organisation allowing the opportunity for a rejoinder to the comments. To ensure impartiality, assessors' names are not provided to the applicant. At the same time, the ARC may add questions to the assessments sent to the applicants for rejoinder. Applicants have 2 weeks in which to submit a rejoinder to the ARC. Rejoinders will not be accepted after the nominated closing date for rejoinder submissions. The ARC may limit the length of rejoinders which can be submitted.

8.2.4 Recommendations

The ARC's recommendations are submitted to the ARC Board and, subject to its views, to the Minister for Education, Science and Training for consideration. The Minister determines which applications will be offered funding.

8.3 Offer of grant

Successful administering organisations will be notified in a letter of offer that will indicate the funding to be provided and include the Funding Agreement.

9. Appeals process

Appeals will be considered only against process issues and not against committee recommendations or assessor ratings and comments.

Appeals must be made on the appeals form available from the ARC website (www.arc.gov.au). The form must be lodged through the administering organisation's Research Office and be received within 28 days of the date on the letter notifying the outcome of applications, by:

The Appeals Officer
Australian Research Council
GPO Box 2702
CANBERRA ACT 2601

10. Administration of grants

10.1 Funding Agreement

Funding assistance may not be expended before the Funding Agreement is signed by the organisation and the ARC, and until such time the ARC will not recognise the project as having begun.

Successful applicants should familiarise themselves with the Funding Agreement. They must accept the terms of the Funding Agreement and the administering organisation must sign the Funding Agreement before funds can be paid.

Projects must commence as required by the Funding Agreement.

Administering organisations should note that the Funding Agreement covers post-award management, including reporting requirements and financial management. The draft Funding Agreement can be viewed on the ARC website (www.arc.gov.au).

10.1.1 Varying the Funding Agreement

Requests to vary the Funding Agreement must be forwarded in writing by the organisation's Research Office to the ARC. Forms are available for variation requests on the ARC website (www.arc.gov.au).

10.1.2 Varying the Funding Approval

Requests to vary the Funding Approval must be forwarded in writing by the administering organisation's Research Office to the ARC.

The Funding Approval may be varied by varying the amount of financial assistance, the duration of financial assistance, the name of the person leading the research program and the name of the organisation receiving financial assistance.

The Funding Approval may be varied where:

the organisation's involvement with the research program ends or substantially changes;

- a. the research program changes so that it is no longer consistent with the description in the Funding Approval;
- b. the person named in the funding approval as the person leading the research program ceases to lead the program;
- c. association with any of the collaborating partner organisations involved in the research program ends, or the collaborating partner organisation(s) substantially changes its involvement with the program.

10.1.3 Reports

Administering organisations are required to submit reports concerning funded projects to the ARC, in the format and by the due dates detailed in the Funding Agreement.

11. Other matters

11.1 Applicable law

The ARC is required to comply with the requirements of the *Privacy Act 1988* and the *Freedom of Information Act 1982*.

11.2 Confidentiality

Information contained in applications is regarded as confidential unless otherwise stated and, subject to the need to provide applications to assessors, and statutory requirements for the ARC to provide information to Parliament and other organisations, applications will be received and treated as confidential.

Notwithstanding the above, the ARC may publicise and report offers or awards of funding, including information about the proposed research, the name and organisation of any applicant, the identity of the administering organisation and any other organisation involved in the project, the title and summary descriptions of the project and its intended outcomes, and the level and nature of financial assistance from the ARC.

11.3 Project Titles

If the ARC judges that a project title and description do not adequately reflect the objectives and outcomes sought, the ARC reserves the right to change the project title and description.

11.4 Intellectual property

Applicants must agree to comply with the National Principles of Intellectual Property Management for Publicly Funded Research (available at www.arc.gov.au) and act in accordance with any intellectual property policies of the applicant's organisation.

11.5 Incomplete or misleading information

It is a serious offence to provide false or misleading information to the Commonwealth.

If an application is incomplete, inaccurate or contains misleading information, it may be excluded from any further consideration for funding.

If the ARC believes that omissions or inclusion of misleading information are intentional, or if there is evidence of malpractice, the ARC will refer the matter for investigation with a view to prosecution under Commonwealth criminal law. The Commonwealth is committed to protecting its revenue, expenditure and property from any attempt, by members of the public, contractors, sub-contractors, agents, intermediaries or its own employees, to gain financial or other benefits by deceit.

Examples of malpractice include, but are not restricted to:

- a. providing fictitious track records; or
- b. falsifying claims in publications records (such as describing a paper as accepted for publication when it has only been submitted).

11.6 Insurance and liabilities

Organisations are subject to the liability, indemnity and insurance provisions of the Funding Agreement. The draft Funding Agreement can be viewed on the ARC website (www.arc.gov.au).

Appendix 1: Descriptions of National Research Priorities and associated Priority Goals

Research Priority 1: An Environmentally Sustainable Australia

Transforming the way we utilise our land, water, mineral and energy resources through a better understanding of human and environmental systems and the use of new technologies

Natural resources have traditionally fuelled our national and regional economies. They have the potential to generate further wealth and employment opportunities in the future. But our natural resources and biodiversity must be used on a sustainable basis so that the benefits continue to be enjoyed by future generations.

Australia faces significant environmental challenges:

- Efficient and sustainable water use is a critically important issue for our economic and social development;
- Significant land degradation issues, such as salinity, need to be arrested to underpin our agricultural production systems;
- Climate change can be expected to have complex, long-term consequences for the environment, for our agricultural and marine production systems and for communities; and
- The cleanliness and efficiency of our energy production systems should be enhanced.

There is substantial effort underway to develop more efficient water utilisation practices, to protect our rivers and groundwater resources, and to protect and remediate our fragile soils.

Our agricultural and mining industries are being transformed through the adoption of new technologies, and the development of new types of foods.

This will help to revitalise our regional communities and generate substantial export earnings for the nation over the coming decades.

The Government is committed to meeting the greenhouse gas emissions target set for Australia at Kyoto.

Australia is well placed to take an international lead in developing new and improved energy technologies and in capturing and 'sequestering' carbon dioxide.

Other opportunities lie in managing and using our unique, rich land- and marine-based biodiversity, and in developing our deep earth resources.

Australia has a strong record of achievement in research in fields in the natural sciences, such as agriculture, natural resource management, climate change, horticulture, forestry, mining, energy, and marine sciences, as well as in the social sciences and humanities.

We must build on these strengths to improve our competitive advantages while enhancing our understanding of natural systems and the interplay of human activities.

In particular, there needs to be an increased understanding of the contributions of human behaviour to environmental and climate change, and on appropriate adaptive responses and strategies.

To understand and manage these complex interactions better will require significant collaboration within the research community and with other stakeholders.

Priority goals for research fall in the seven areas of water utilisation, transforming resource-based industries, overcoming land degradation, developing cleaner, more efficient fuels and energy

sources, managing biodiversity, deep earth resources and responding to climate change and variability.

Priority Goals

- **Water – a critical resource**
Sustainable ways of improving water productivity, using less water in agriculture and other industries, providing increased protection of rivers and groundwater and the re-use of urban and industrial waste waters.
Australia is one of the driest continents and is dependent upon access to freshwater supplies for economic and social development. It has a complex geological structure, a highly variable climate, unique ecosystems, flora and fauna and a distinctive indigenous and settler history. Enhancing our understanding of the links between these factors and water availability will result in a better understanding of sustainable water management practices.
- **Transforming existing industries**
New technologies for resource-based industries to deliver substantial increases in national wealth while minimising environmental impacts on land and sea.
Resource-based industries underpin much of Australia's prosperity and have the potential to do so in the future. For example, Australia remains highly prospective for minerals discoveries and highly attractive for the development of new era foods from agricultural and marine sources. Our competitive advantage and national well being will depend on research and on the development and adoption of new technologies.
- **Overcoming soil loss, salinity and acidity**
Identifying causes and solutions to land degradation using a multidisciplinary approach to restore land surfaces.
The Australian landscape is fragile: soil salinity, acidity, and nutrient levels pose significant, long term challenges for agriculture and the environment. Research is helping to find solutions to these problems. For example, the National Land and Water Resources Audit shows the extent of salinity, soil erosion and soil acidification in the Australian environment and illustrates Australia's leading edge in national mapping of critical resource data. Further multidisciplinary effort is required to develop sustainable land management practices that are appropriate for Australian conditions and mitigate major land degradation processes and increase biodiversity.
- **Reducing and capturing emissions in transport and energy generation**
Alternative transport technologies and clean combustion and efficient new power generation systems and capture and sequestration of carbon dioxide.
Australia is well positioned to produce world class solutions to reduce and capture greenhouse gas emissions and the Government is committed to meeting the emissions target set for Australia at Kyoto. We are also well placed to develop alternative energy technologies and ecologically sustainable transport and power generation systems.

- **Sustainable use of Australia’s biodiversity**

Managing and protecting Australia’s terrestrial and marine biodiversity both for its own value and to develop long term use of ecosystem goods and services ranging from fisheries to ecotourism.

Australia has a unique and rich flora and fauna. Many of our complex ecosystems – on which our agricultural, fisheries and tourism industries depend - have adapted to events such as drought and fire, and have been shaped by indigenous and settler management practices. There is a need for a more comprehensive understanding of these natural systems and the interplay with human activities, and the effects of management and protection measures.

- **Developing deep earth resources**

Smart high-technology exploration methodologies, including imaging and mapping the deep earth and ocean floors, and novel efficient ways of commodity extraction and processing (examples include minerals, oil and gas) while minimising negative ecological and social impacts.

Many of Australia’s known mineral assets may be nearly exhausted within the next decade. New land-based deposits are believed to be buried deeper in the crust and the deep marine areas surrounding Australia are also largely unexplored. New technologies, such as remote sensing, indicate scientists are on the brink of being able to ‘see’ inside the earth and identify deeply buried deposits.

- **Responding to climate change and variability**

Increasing our understanding of the impact of climate change and variability at the regional level across Australia, and addressing the consequences of these factors on the environment and on communities.

Australia already has a highly variable climate, and climate change can be expected to have further significant impacts. It is important to enhance our understanding of the consequences of climate change and variability at the regional level across Australia, and the implications for the environment and for communities. It is also important to explore beneficial adaptation strategies to climate change and variability to ensure ongoing social, economic and environmental well being.

Research Priority 2: Promoting and Maintaining Good Health

Promoting good health and well being for all Australians

Average life expectancies have increased markedly in recent decades. Australians also expect to lead longer and healthier lives in the future, and to remain productive and independent over an extended period.

Enabling individuals and families to make choices that lead to healthy, productive and fulfilling lives will yield economic and social benefits and add materially to national well being.

Australians expect that their children and grandchildren should have a healthy start to life.

Developing strategies to promote the healthy development of young Australians, and addressing the causes and reducing the impact of the genetic, social and environmental factors which diminish their life potential will be critical.

A revolution is also underway at the other end of the life cycle. Australia, like many other developed nations, is undergoing a major demographic shift involving significant growth in the aged population.

To meet this challenge, it will be important to promote healthy ageing by developing better social and medical strategies to ensure that older Australians enjoy healthy and productive lives.

Informed insights into the causes of disease and of mental and physical degeneration will contribute to the achievement of this goal.

All Australians stand to benefit from preventive healthcare through the adoption of healthier attitudes, habits and lifestyles.

Evidence-based preventive interventions may help reduce the incidence and severity of many diseases, including major health problems such as cardiovascular and neurodegenerative diseases, mental ill-health, obesity, diabetes, asthma and chronic inflammatory conditions. These could include interventions that reduce exposure to contamination of the physical environment (eg air pollution).

Improvements in the health and well being of the young, of older Australians and in preventive healthcare will be underpinned by research.

However, while Australia has an enviable record in health and medical research, the research effort is spread across the many universities, hospitals and health and medical research institutes, resulting in critical mass only in limited areas of research.

There is also a need to draw on multidisciplinary approaches that include research contributions from the social sciences and humanities.

This priority is designed to promote health and prevent disease through a more focused and collaborative effort.

Priority goals for research fall in the four areas of a healthy start to life, ageing well, ageing productively, preventive healthcare and strengthening Australia's social and economic fabric.

Priority Goals

- **A healthy start to life**
Counteracting the impact of genetic, social and environmental factors which predispose infants and children to ill health and reduce their well being and life potential.
Human health in the developing foetus and in early childhood is critical to the future well being of the adult. Research shows that health and well being in early childhood is predictive of later positive outcomes, and that health in middle and late childhood is also crucial. This goal supports the Government's National Agenda for Early Childhood initiative.
- **Ageing well, ageing productively**
Developing better social, medical and population health strategies to improve the mental and physical capacities of ageing people.
Australia's population is ageing, with a significant projected increase in the number of people aged over 65 and over 85. While Australia is relatively well placed compared with many OECD nations, major shifts in cultural expectations and attitudes about ageing are necessary to respond constructively, at both an individual and population level. A healthy aged population will contribute actively to the life of the nation through participation in the labour market or through voluntary work. This goal supports the Government's National Strategy for an Ageing Australia.
- **Preventive healthcare**
New ethical, evidence-based strategies to promote health and prevent disease through the adoption of healthier lifestyles and diet, and the development of health-promoting products.
Preventive healthcare research will improve the prediction and prevention of disease and injury for all Australians through the adoption of healthier behaviours, lifestyles and environments. Research will generate an improvement in the design, delivery and uptake of programmes such as exercise-based rehabilitation. There are several major disease targets

amenable to immediate study, such as cardiovascular health, neurodegenerative diseases, mental ill-health, obesity, diabetes, asthma and chronic inflammatory conditions. Research on prevention will emphasise interdisciplinary approaches, including research on ethics, drawing on contributions from the social sciences and humanities, as well as from the health and medical sciences. It will also focus on developing new health promoting foods and nutraceuticals. This goal supports the Government's Focus on Prevention initiative.

- **Strengthening Australia's social and economic fabric**

Understanding and strengthening key elements of Australia's social and economic fabric to help families and individuals live healthy, productive, and fulfilling lives.

Living in today's society involves a complex web of choices, yet many of the traditional support structures are weaker than they have been in the past. Enabling people to make choices that lead to positive pathways to self reliance and supportive family structures is more important than ever. The interactions between the social safety net, social and economic participation, financial incentives and community and private sources of support are critical in helping people maximise their potential and achieve good, healthy, lifetime outcomes. In the decade ahead, it will be vital to understand and support the drivers for workforce participation and the broader social and economic trends influencing Australian families and communities. This goal supports the Government's welfare reform and participation agendas. Research in this area will emphasise interdisciplinary approaches, drawing on contributions from the economic, behavioural and social sciences

Research Priority 3: Frontier Technologies for Building and Transforming Australian Industries

Stimulating the growth of world-class Australian industries using innovative technologies developed from cutting-edge research

Progress and wealth often derive from the unforeseen application of new discoveries. Australia must be at the leading edge if it is to stay abreast of international developments and take advantage of opportunities.

Our national capabilities in emerging sciences and their underpinning disciplines determine our capacity to develop and implement new technologies. Australia has a strong base of expertise, skills and technological capacities in the fundamental sciences and key technologies.

Our strengths are in a wide range of areas such as biotechnology, material sciences, information and communications technology (ICT), photonics, nanotechnology and sensor technology.

ICT is currently the critical enabling technology and is a major contributor to national productivity and growth.

But breakthrough science underpins technological advancements in many areas and Australia needs to foster an environment that stimulates creativity and innovation.

Applications for frontier technologies are potentially very large. Australia has the capacity to exploit niche markets for new products and services.

Australia also has an enviable track record as an innovator and developer of advanced materials and must grasp the opportunity to stay ahead.

Smart information use involving improved data management, intelligent transport systems and digital media to develop creative applications for digital technologies provides huge opportunities to improve the performance of key Australian industries.

Australia needs to invest in this research area as it is fundamental to our future competitiveness and well being.

This priority will help to strengthen the capacity of Australian researchers to participate in new areas of research, enhance Australia's international scientific reputation, stimulate local expertise, and help create vibrant new industries.

A better understanding of the conditions that are conducive to innovation will ensure that Australia's investment in research will maximise the benefits for Australia.

Enhanced research effort will also be achieved through initiatives that develop a critical mass of researchers in key areas.

Priority goals for research fall in the five areas of breakthrough science, frontier technologies, advanced materials, smart information use, and promoting an innovation culture and economy.

Priority Goals

- **Breakthrough science**

Better understanding of the fundamental processes that will advance knowledge and facilitate the development of technological innovations.

Breakthrough science underpins technological innovation across a range of industries critical to maintaining Australia's position as a developed country. Some examples include bio-, cultural- and geo-informatics, nano-assembly and quantum computing. Technological advances are often unexpected and a strong foundation in mathematics and the fundamental sciences will provide an environment that fosters creativity and innovation. Early participation in leading edge areas of research will enable Australian researchers to benefit more fully from international developments.

- **Frontier technologies**

Enhanced capacity in frontier technologies to power world-class industries of the future and build on Australia's strengths in research and innovation (examples include nanotechnology, biotechnology, ICT, photonics, genomics/phenomics, and complex systems).

The potential applications of frontier technologies across a range of industries in Australia are vast. Australia has significant capacity to exploit niche markets for new products and services emerging from frontier technologies. Australia has world-class research expertise in many such areas. Some examples include nanotechnology, biotechnology, ICT, photonics, genomics and phenomics. Also important are advanced frameworks such as complex systems in which these technologies are applied. Future directions in this priority area need to target the cutting-edge science critical for each emerging technology.

- **Advanced materials**

Advanced materials for applications in construction, communications, transport, agriculture and medicine (examples include ceramics, organics, biomaterials, smart material and fabrics, composites, polymers and light metals).

The development of advanced materials will underpin growth in many areas of industrial and economic activity in Australia. Australia has substantial infrastructure in this area and an enviable track record as an innovator and developer of advanced materials. The era of advanced materials is just beginning, in spite of the tremendous progress in recent years. Substantial scientific and technological challenges remain ahead, including the development of more sophisticated and specialised materials. Some examples include ceramics, organics, biomaterials, smart materials and fabrics, composites, polymers, and light metals.

- **Smart information use**

Improved data management for existing and new business applications and creative applications for digital technologies (examples include e-finance, interactive systems, multi-

platform media, creative industries, digital media creative design, content generation and imaging).

ICT applications are providing huge opportunities to deliver new systems, products, business solutions, and to make more efficient use of infrastructure. Examples include e-finance, multi-media, content generation and imaging. Improved data management is central to the future competitiveness of key industries such as agriculture, biotechnology, finance, banking, education, transport, government, and health and ‘info-tainment’. The ability of organisations to operate virtually and collaborate across huge distances in Australia and internationally hinges on our capabilities in this area. The media and creative industries are among the fastest growing sectors of the new economy. Research is needed to exploit the huge potential in the digital media industry.

- **Promoting an innovation culture and economy**

Maximising Australia’s creative and technological capability by understanding the factors conducive to innovation and its acceptance.

Understanding the factors that lead to highly creative and innovative ideas and concepts, and the conditions that lead to their introduction, transfer and uptake is critical for any nation that aspires to lead the world in breakthrough science, frontier technologies, and in other forms of innovation. Promoting an innovation culture and economy requires research with a focus on developing and fostering human talent, societal and cultural values favourable to creativity and innovation, and structures and processes for encouraging and managing innovation.

Research Priority 4: Safeguarding Australia

Safeguarding Australia from terrorism, crime, invasive diseases and pests, strengthening our understanding of Australia’s place in the region and the world, and securing our infrastructure, particularly with respect to our digital systems.

The importance of security and safety to Australia has been underscored by recent events.

Australia has to be capable of anticipating and tackling critical threats to society, strategic areas of the national economy and the environment.

The threats can potentially come from within and outside Australia.

The world is now characterised by the widespread and rapid movements of people, digitally coded data, goods and services, and exotic biological agents.

Critical infrastructure in Australia is increasingly dependent on digital technology for its management and integration.

Information protection and the integrity of security systems are now more important than ever before.

It is also necessary to protect the status of Australia as a nation free of many of the diseases affecting primary production around the world.

Terrorism has emerged as a very real global threat and crime is taking a significant toll on Australian society and economy.

Maintaining the operational advantage of Australia’s defence forces through superior capabilities is also fundamental to our national security.

Enhancing our nation’s understanding of social, political and cultural issues will help Australia to engage with our neighbours and the wider global community and to respond to emerging issues.

Leading edge research in Australia is already yielding high dividends and as a national research priority will improve the effectiveness of that contribution.

Stronger research capabilities will ensure that solutions are tailored to Australia's unique circumstances, reflecting its geographic features and small population.

Greater collaboration within the research community and with other stakeholders will allow us to better understand and manage potential threats to Australia.

Harnessing the knowledge and capabilities across Australia offers us the best chance of developing innovative and rapid solutions to serious threats.

Australia's international relations and its regional influence will be strengthened through new collaborative approaches and new science and technologies that enhance security and safety.

The heightened interest in personal and electronic security across the world also provides opportunities for Australian solutions.

Priority goals for research fall in the five areas of critical infrastructure, understanding our region and the world, protecting Australia from invasive diseases and pests, protecting Australia from terrorism and crime, and transformational defence technologies.

Priority goals

- **Critical infrastructure**

Protecting Australia's critical infrastructure including our financial, energy, communications, and transport systems.

Protecting our critical infrastructure is important to national security and to the social and economic well being of Australia. An important aspect of this priority goal is e-security which is an enabler of e-commerce. Maintaining a critical mass of research in e-security will be essential in providing Australia with the tools to protect our way of life.

- **Understanding our region and the world**

Enhancing Australia's capacity to interpret and engage with its regional and global environment through a greater understanding of languages, societies, politics and cultures.

Social, cultural and religious issues are of growing significance due to the insecurities of globalisation and the increasing role of non-state players in the security environment. Australia's capacity to interpret and engage with its regional and global environment will be substantially improved by enhancing its research base in apposite languages, societies and cultures. An approach that enhances Australia's capacity to interpret itself to the rest of the world is also needed.

- **Protecting Australia from invasive diseases and pests**

Counteract the impact of invasive species through the application of new technologies and by integrating approaches across agencies and jurisdictions.

Australia is free of many of the pests and diseases affecting primary production around the world. This status needs to be protected as the introduction of exotic species has the potential to adversely affect our exports and the environment. Australia already has strong skills and expertise in this area of research and further work will offer immediate benefits to the community. A greater level of coordination of our research effort will mean that Australia can more effectively develop innovative and rapid solutions to serious threats.

- **Protecting Australia from terrorism and crime**

By promoting a healthy and diverse research and development system that anticipates threats and supports core competencies in modern and rapid identification techniques.

Protecting Australia from terrorism is now more important than ever before in light of recent events and our involvement in the 'war on terror'. The new threat requires a more sophisticated response which should harness Australia's research capabilities, and which will

focus on all phases of counter-terrorism; prevention, preparedness, detection, response and recovery. Crime takes a significant toll on Australian society and economy. The June 2000 report from the Prime Minister's Science, Engineering and Innovation Council estimated that crime costs Australia at least \$18 billion per annum. Personal identification, information protection and the integrity of security systems are fundamental towards ensuring the national security of Australia. An effective solution will include building on Australia's existing strengths in rapid detection using new analytical technologies and managing significant data collections.

- **Transformational defence technologies**

Transform military operations for the defence of Australia by providing superior technologies, better information and improved ways of operation.

Australia has a small defence force to protect a large continent and a substantial maritime region of responsibility. Its operational advantage has been maintained through a superior capability which is dependent on leveraging innovative technologies. Although some benefits can be gained from overseas research, Australia has to conduct its own research to address uniquely Australian demands. A systems approach which harnesses the research capabilities of all stakeholders is essential to the successful development and introduction of innovative technologies.

Appendix 2. Eligible Organisations

A: Higher Education Organisations

New South Wales

Charles Sturt University
Macquarie University
Southern Cross University
The University of New England
The University of New South Wales
The University of Newcastle
The University of Sydney
University of Technology, Sydney
University of Western Sydney
University of Wollongong

Victoria

Deakin University
La Trobe University
Melbourne College of Divinity
Monash University
RMIT University
Swinburne University of Technology
The University of Melbourne
University of Ballarat
Victoria University of Technology

Queensland

Bond University
Central Queensland University
Griffith University
James Cook University
Queensland University of Technology
The University of Queensland
The University of the Sunshine Coast
University of Southern Queensland

Western Australia

Curtin University of Technology
Edith Cowan University
Murdoch University
The University of Notre Dame Australia
The University of Western Australia

South Australia

The Flinders University of South Australia
The University of Adelaide
University of South Australia

Tasmania

Australian Maritime College
University of Tasmania

Northern Territory

Charles Darwin University

Batchelor Institute of Indigenous Tertiary Education
Australian Capital Territory
The Australian National University
University of Canberra
Multi-State
Australian Catholic University

B: Other eligible organisations

Museums and herbaria which are Australian publicly funded organisations not directly funded to carry out research, but with research-related purposes and objectives.

Appendix 3. Notional ARC Fellowship Salaries for Funding Commencing in 2006 (2006\$)

Salaries are indexed annually.

Fellowship	Step/Option	Salary	26% on-costs	TOTAL
Australian Postdoctoral Fellowship (APD); Australian Postdoctoral Fellowship Industry (APDI); Linkage Australian Postdoctoral Fellowship CSIRO; Research Cadetship-Aboriginal and Torres Strait Islander (RC-ATSI)	3 year, 100% option	\$59,000	\$15,340	\$74,340
	4 year, 75/25% option	\$44,250	\$11,505	\$55,755
Australian Research Fellowship (ARF)	100% option	\$74,000	\$19,240	\$93,240
	50% option	\$37,000	\$9,620	\$46,620
Queen Elizabeth II Fellowship (QEII)	100% option	\$88,000	\$22,880	\$110,880
	50% option	\$44,000	\$11,440	\$55,440
Australian Professorial Fellowship (APF)	Step 1 – 100% option	\$102,000	\$26,520	\$128,520
	50% option	\$51,000	\$13,260	\$64,260
Australian Professorial Fellowship (APF)	Step 2 – 100% option	\$118,000	\$30,680	\$148,680
	50% option	\$59,000	\$15,340	\$74,340
Federation Fellowship		\$241,224	\$62,718	\$303,942

ARC Fellows Relocation (maximum) Allowances

USA	\$17,000
UK/Europe/Asia (Nth Hem)	\$14,000
Asia (Sth Hem)/NZ	\$11,000
Australia	\$ 8,000