



DISCOVERY— PROJECTS

Guidelines for applicants

for funding commencing in

2003

Australian Research Council

Discovery—Projects

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Acronyms

The following acronyms are used throughout these guidelines.

APA	Australian Postgraduate Award
APD	Australian Postdoctoral Fellowship
APDI	Australian Postdoctoral Fellowship (Industry)
APF	Australian Professorial Fellowship
ARC	Australian Research Council
ARF	Australian Research Fellowship
EAC	Expert Advisory Committee
ECR	Early Career Researcher
GAMS	Grant Administration Management System
HECS	Higher Education Contribution Scheme
IAS	Institute of Advanced Studies
KCTR	Key Centre for Teaching and Research
NCGP	National Competitive Grants Programme
NHMRC	National Health and Medical Research Council
QEII	Queen Elizabeth II Fellowship
SRC	Special Research Centres

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1 Introduction

These guidelines set out the funding rules under the *Australian Research Council Act 2001* for *Discovery—Projects* which is part of the Australian Research Council's National Competitive Grants Programme (NCGP). The NCGP comprises two elements, *Discovery* and *Linkage*.

The *Discovery—Projects* Guidelines for Funding Commencing in 2003 issued in November 2001 are revoked and this document now comprises the *Discovery—Projects* Guidelines for Funding Commencing in 2003.

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

These Guidelines are written on the basis that it is the researcher who is the applicant. However, grants from the ARC are made to organisations, not to the individual researchers.

Private researchers may apply for *Discovery—Projects* grants but must nominate the administering organisation to which funds are to be paid if an award is made.

2 Objectives

Discovery—Projects aims to—

- support excellent fundamental research by individuals and teams
- enhance the scale and focus of research in Designated Priority Areas of Research (refer to section 3.1)
- assist researchers to undertake their research in conditions most conducive to achieving best results
- expand Australia's knowledge base and research capability
- encourage research training in high-quality research environments.

3 Description

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 programme that will make a major contribution to generating knowledge. It also allows for single projects to be undertaken on an individual basis.

Research Grants and Research Fellowships are available under *Discovery—Projects*. Applicants who apply for a Research Fellowship but not for a Research Grant must demonstrate how their

research will be supported. The ARC wishes to ensure that the research proposed by those appointed as Fellows, particularly those appointed at APF level, is amongst the highest quality supported by the ARC and that their proposed research is adequately funded.

3.1 Types of research supported

Discovery—Projects supports excellent research including—

- *pure basic research* which is experimental and theoretical work undertaken to acquire new knowledge without looking for long-term benefits other than the advancement of knowledge.
- *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.
- *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.

The Minister for Education, Science and Training has designated the following areas of research as priority areas of research for the 2003 funding round:

- Nano-materials and Bio-materials
- Genome/Phenome Research
- Complex/Intelligent Systems
- Photon Science and Technology

These areas of research will be referred to as Designated Priority Areas of Research. *Discovery—Projects* support will include supporting projects focussed upon Designated Priority Areas of Research. Descriptions of these Areas can be found in Appendix 2, and on the ARC web site (www.arc.gov.au).

3.2 Applicant roles

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

- Chief Investigator (CI)
- Partner Investigator (PI)
- Research Fellowships—
 - ARC Professorial Fellow (APF)
 - ARC Research Fellow/Queen Elizabeth II Fellow (ARF/QEII)
 - ARC Postdoctoral Fellow (APD).

The roles and eligibility requirements for each of these are described below. To be eligible for consideration, each application must have at least one Chief Investigator or Research Fellowship applicant.

4 Eligibility

4.1 Eligibility criteria for Chief Investigators

To be eligible to apply as a Chief Investigator, the applicant must meet the following criteria—

- He/she must be an active researcher who takes intellectual responsibility for the project, its conception, 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.
- He/she must reside predominantly in Australia for the full term of the grant. If the applicant does not have permanent resident status he/she must obtain temporary resident status from the Department of Immigration and Multicultural Affairs before taking up the grant.
- He/she must meet **one** of the following three criteria—
 - be associated with, or employed by, a higher education institution or other organisation. The applicant must hold a substantive position at, and/or derive at least 50 per cent of his/her appropriated salary from that institution or organisation; or
 - be a continuing or non-continuing adjunct professor or visiting fellow, or equivalent, who does not have a substantive position or paid appointment elsewhere; or
 - be a private individual not associated in any formal capacity with an organisation or institution.

Notwithstanding his/her eligibility under the criteria above, researchers in the following categories are not eligible to apply as a Chief Investigator—

- researchers who derive more than 50 per cent of appropriated salary from research organisations outside the higher education sector that are funded primarily for research from State or Commonwealth Government sources, for example—
 - Defence Science and Technology Organisation (DSTO)
 - Commonwealth Scientific and Industrial Research Organization (CSIRO)
 - Australian Geological Survey Organisation (AGSO)
 - State Research and Development (R&D) organisations
 - NHMRC block-funded institutions; or
- an undergraduate student, or
- a postgraduate student (unless eligible to be a CI because of employment but only for research which lies outside the scope of the postgraduate studies).

Chief Investigators must have fulfilled all obligations from previous ARC grants (including final and progress reports). Chief Investigators who have not fulfilled all obligations from previous ARC grants are ineligible to apply.

4.1.1 *Early Career Researchers*

The ARC has identified funds within *Discovery—Projects* specifically for Early Career Researchers (ECRs) applying individually or in collaboration with other ECRs for Research Grant support and/or Australian Postdoctoral Fellowships (APD). Early career researchers, including APD applicants, may apply as a single CI or Fellow or may apply in collaboration with other ECRs (see

Option 1, below) or with more experienced non-ECR researchers (see Option 2, below). An ECR Application is defined as one in which all CIs and Fellows are ECRs.

The primary definition of an Early Career Researcher is one holding a PhD, or equivalent research doctorate, awarded since 1 March 1997. 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 2003*). Circumstances establishing ECR status beyond the primary 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 will make a final determination of the ECR status of applicants. Applications making unsuccessful claims for ECR status will be processed as non-ECR applications.

ECRs may apply via two routes—

Option 1, as a single investigator or in collaboration with other ECRs (an ECR application);
OR

Option 2, in collaboration with one or more experienced Chief Investigators and/or Fellows (a non-ECR application).

Option 1 applications will be considered separately from mainstream applications. To be eligible to apply under *Option 1*, all investigators (if there is more than one) on the single application must meet the criteria for an ECR. *Option 2* applicants will be assessed along with mainstream applications. ECRs may apply via both routes only if they are applying for different projects.

The assessment criteria and processes for Fellowship and Research Grant applications detailed in section 8 also apply to ECR applicants.

4.2 Eligibility criteria for Partner Investigators

Researchers who are not eligible to be Chief Investigators but who are providing significant commitment, intellectual input, relevant expertise and significant financial contribution to the project can apply as Partner Investigators. To be eligible to apply as a Partner Investigator, a researcher must—

- be ineligible to be a Chief Investigator, and
- demonstrate a significant contribution of funds (other than salary) or other material resources from the researcher's institution for the proposed project (having regard to the total cost of the project and the relative contribution of each Chief Investigator).

4.3 Eligibility criteria for Fellowships

4.3.1 General eligibility

Research Fellowships are tenable only on a full-time basis.

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 plus the required number of years of postdoctoral experience.

Applicants who apply for a Research Fellowship without applying for a Research Grant in conjunction must demonstrate how their research will be supported.

4.3.1.1 *Salary options for ARF/QEII and APF Fellowships*

Applicants for ARF/QEII or APF Fellowships may be:

- 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; or
- Researchers who have a continuing position at the time of application may apply for either:
 - 50 per cent salary; or
 - 100 per cent salary.

In the case of 50 per cent–50 per cent salary option, the ARC would enter into an agreement with the Fellow's host institution and each party would provide 50 per cent of the Fellow's salary and salary-related on costs.

Applicants who hold a continuing research-only position at any university are not eligible to apply for ARC 50 per cent–50 per cent 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 either case, the Fellow would be expected to work full-time on research and research-related activities. Research-related activities could include supervision of postgraduate students. Research Fellows should note the information regarding limit on number of grants contained in paragraph 4.5.

4.3.2 *Host institutions for Fellows*

All ARC Research Fellowships are tenable at Australian higher education institutions and other organisations.

It is also possible to hold an APD or QEII Fellowship at a research organisation outside the higher education sector that is funded primarily for research from State or Commonwealth Government sources. However, researchers who apply for one of these Fellowships at such an organisation may not apply for a Project in conjunction with their Fellowship.

Fellowship applicants must meet the eligibility criteria for Chief Investigators except for applicants for APD or QEII awards who intend to take up the Fellowship at a research organisation outside the higher education sector, which is funded for research primarily from State or Commonwealth Government sources. Researchers who fall into this category and who wish to apply for a research support in addition to the Fellowship salary must apply with an eligible Chief Investigator.

4.3.3 *Request for eligibility exemption*

In some circumstances, an applicant who is seeking a Fellowship may not satisfy all the required 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.

If, after reading these guidelines, an applicant is unsure if he/she is eligible for a particular Fellowship, he/she must consult the institution's Research Office in the first instance.

If the applicant does require an eligibility exemption, a request must be lodged in writing, through the institution's Research Office, or the administering organisation's equivalent office, with the Director, Programme Management Section, at the ARC by 31 January 2002. The eligibility exemption request must include a statement justifying the applicant's special circumstances for an eligibility exemption. The applicant will be advised of the decision as soon as possible to allow time for a detailed application to be completed.

4.3.4 *Specific eligibility*

Each level of ARC Fellowship has specific eligibility criteria. Fellowship applicants must meet the eligibility criteria for their category of Fellowship unless granted an exemption.

4.3.5 *Eligibility criteria for Australian Post-doctoral Fellowships (APD)*

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

Australian and overseas researchers may apply for an APD to commence in 2003 if—

- they have been awarded a PhD since 1 March 1999, or
- they have not yet submitted their PhD thesis but are due to do so before the end of 2002.

If an APD Fellowship offer is made, it will be contingent upon receiving official confirmation that the thesis has been submitted by 31 December 2002. An APD Fellowship cannot be taken up until formal advice is received that the PhD thesis has been accepted, within a maximum time limit of six months, that is, by 30 June 2003. If these conditions have not been satisfied, the offer will be withdrawn.

4.3.5.1 *Tenure details and support entitlements*

APD Fellowships must commence in the first year of the grant. The ARC notional salary rates for Fellowships are set out in Appendix 1.

APD Fellowships are categorised as training awards and, as such, are tenable at eligible higher education institutions, or research organisations outside the higher education sector that are funded primarily for research from State or Commonwealth Government sources (such as the Defence Science and Technology Organisation (DSTO), Commonwealth Scientific and Industrial Research Organization (CSIRO), Australian Geological Survey Organisation (AGSO), State Research and Development (R&D) organisations and NHMRC block-funded institutions), or other incorporated organisations.

There is a choice of salary support options for APD Fellowships—

- 100 per cent salary and salary-related on-costs from the ARC for three years
- 75 per cent salary and salary-related on-costs from the ARC and 25 per cent from the host university over four years (research and teaching option).

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

4.3.5.2 Selection

The ARC may give preference to applicants who intend to move to an institution 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 institution. Applicants should provide a justification of their choice of institution, particularly if no change of institution is planned.

In this category, the ARC may give preference to Australian citizens and permanent residents. 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.

An APD fellowship (or an APD(I) fellowship) may only be awarded to an applicant once.

4.3.6 Eligibility criteria for Australian Research Fellows (ARF) /Queen Elizabeth Fellows (QE11)

ARFs and QEII provide opportunities for established researchers to undertake research of national and international significance. QEII 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 more than three years, but not more than eight years, professional experience since the award of their PhD unless they are current ARC APD or APA(I)s in the final year of their Fellowship. An APD fellow (or an APD(I) fellow) may apply for an ARF//QEII in the final year of his/her APD or APD(I) Research Fellowship.

4.3.6.1 Tenure details and support entitlements

ARF/QEII Fellowships have a standard tenure of five years. The ARC notional salary rates for Fellowships are set out in Appendix 1.

ARFs are tenable at any eligible higher education institution or other organisation but are not tenable at research organisations outside the higher education sector that are funded primarily for research from State or Commonwealth Government sources such as the Defence Science and Technology Organisation (DSTO), Commonwealth Scientific and Industrial Research Organization (CSIRO), Australian Geological Survey Organisation (AGSO), State Research and Development (R&D) organisations and NHMRC block-funded institutions.

QEII Fellowships are categorised as training awards and, as such, are tenable at any eligible higher education institution or at research organisations outside the higher education sector that are funded primarily for research from State or Commonwealth Government sources such as the Defence Science and Technology Organisation (DSTO), Commonwealth Scientific and Industrial Research Organization (CSIRO), Australian Geological Survey Organisation (AGSO), State Research and Development (R&D) organisations and NHMRC block-funded institutions, or other organisations.

4.3.6.2 Selection

Preference may be given to Australian citizens and permanent residents in the ARF category. 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.

The ARC may give preference to applicants who intend to move to an institution 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 institution. Applicants should provide a justification of their choice of institution, particularly if no change of institution is planned.

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

4.3.7 Eligibility Criteria for Australian Professorial Fellows (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.

Applicants must have more than eight years' professional experience since the award of their PhD or equivalent research doctorate (unless a current ARF/QEII in last year of Fellowship) and must be either:

- Australian based researchers who have an internationally competitive research record, or
- extremely high profile expatriate Australian, or non-Australian, researchers who wish to pursue their research in Australia.

4.3.7.1 Tenure details and support entitlements

APFs have a standard tenure of five years. Tenure will be continued, provided ARC receives satisfactory annual progress reports, but will not be extended. The ARC notional salary rates for Fellowships are set out in Appendix 1.

Australian APFs are not tenable at research organisations outside the higher education sector that are funded primarily for research from State or Commonwealth Government sources such as the Defence Science and Technology Organisation (DSTO), Commonwealth Scientific and Industrial Research Organization (CSIRO), Australian Geological Survey Organisation (AGSO), State Research and Development (R&D) organisations and NHMRC block-funded institutions.

4.3.7.2 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 not available locally and of benefit to Australian research.

4.4 Number of grants and applications

The following limits apply to grants awarded under the *Discovery—Projects* and the previous Large Research Grants and Fellowships schemes.

Every grant must have at least one Chief Investigator or Fellowship holder.

A researcher may not hold more than one grant on which he/she is the sole CI or sole Fellow.

A researcher may not hold more than two grants on which he/she is CI or Fellow. A researcher may not be named as Partner Investigator on more than two grants.

Applicants may apply for *Discovery—Projects* grants only to the extent that, if successful, they would not exceed the maximum number of grants they may hold in 2003.

Submitting initial applications that contravene the above limits will result in the automatic exclusion of all applications involving that applicant as a CI, PI or Fellow.

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 institution. Submitting similar or duplicate applications will result in automatic exclusion of all applications involving those applicants. The ARC reserves the right to determine whether applications are duplicates or sufficiently similar to warrant exclusion.

5 Funding

5.1 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.

The ARC will award very few grants at the higher end of the funding spectrum and these will normally be awarded only for an application that involves a collaborating team of outstanding investigators.

Applicants seeking a Fellowship under *Discovery—Projects* should include a request for a salary component in the budget (see Appendix for 2002 salaries)

5.2 Duration of Funding

Discovery—Projects Grants may be awarded for one to five years, the normal duration being three years. APF, QEII and ARF Awards have a standard duration of five years. APD Awards have a standard duration of three years. A four-year research and teaching option is available for APDs. (Further details about the tenure of Fellowships are provided in Appendix 1).

Only a small number of five year project grants will be made available and these are intended for researchers with track records of successful research outcomes.. The final decision on the duration

of the grants rests with the ARC's Expert Advisory Committees and they may recommend project grants for a duration different from that requested.

5.3 Areas of investigation/work not supported

Discovery—Projects does **not** support the following work—

- clinical medicine and dental research and training and public health research and training that are covered by the NHMRC
- 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.
- 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
- production of teaching materials, even though some research may be involved in their production
- compilation of data, unless an integral part of a project, in which case applicants must provide a statement indicating the research objectives to which the data would contribute
- 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.

5.4 Budget items not supported

Discovery—Projects does **not** support the following budget items—

- *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 or Partner Investigators under *Discovery*.
- Discovery—Projects* funding is not usually provided for Chief Investigators in order to gain substantial relief from normal duties. However, the Committee may consider a request for such funding for teaching relief for a period of not more than six months a year, if such a request is fully justified in terms of achieving a successful outcome for the project. If approved, the funding contribution is limited to the base rate of the Senior Research Associate scale, regardless of the level of appointment of the staff member.
- *Special Studies Programmes*
Funds are not provided for travel or other expenses for researchers when on a Special Studies Programme. Travel to special facilities away from the base where a researcher is conducting his/her study is seen as part of the normal costs of a Special Studies Programme. Only in exceptional cases will such costs be supported within a *Discovery—Projects* Grant. Subsistence funds will be provided only if an investigator can show that living expenses are not covered by a Special Studies Programme grant and that the research to be undertaken directly relates to the project.
 - *Research support for investigators not resident in Australia*
Funding will not be provided for research assistance to an overseas Partner Investigator.

- *International students' fees and Higher Education Contribution Scheme (HECS) liability*
Funds are not provided to pay the fees of international students or of HECS liabilities for Australian students.
- *Computer facilities for molecular analysis*
Applicants for projects involving molecular biology should be aware that the ARC supports the Australian National Genomic Information Service, which 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.
- *Basic facilities*
The host institution must certify its agreement to provide the following basic facilities, which will not be funded under Discovery—Projects—
 - accommodation (eg. laboratory and office, suitably equipped and furnished in standard ways)
 - access to workshop services (eg machine tools and qualified technicians available to each member of staff, according to need, for research)
 - access to a basic library collection
 - adequate computing time (excluding access to high-performance computers)
 - standard reference materials or funds for abstracting services
 - basic computing, word processing and microfilm reading facilities
 - use of photocopiers, telephones, mail, fax, email and internet services.
- *Publication costs*
Publication costs, including page costs, are not funded under Discovery—Projects.

6 Cross-scheme funding

6.1 Researchers from ARC funded Centres

The ARC will not fund projects already funded by an ARC funded Centre, or which should reasonably be expected to be funded by a Centre given its core business. Any researcher associated with an ARC funded centre, including the Director, is eligible to be a Chief Investigator so long as the following criteria are satisfied—

- The proposed research is outside the core business of the centre (which has already been funded by the Commonwealth). This must be certified by the Centre Director and should be no longer than one page in length and must accompany the application
The ARC reserves the right to make the final decision on whether a proposal is outside the core business of an ARC Centre.
- Centre Directors are employed full-time to work on Centre and related business. Centre Directors may apply for a *Discovery—Projects* grant if the proposed research is related and complementary to the centre, but outside its core business.
- The applicant meets all other Chief Investigator eligibility criteria.

6.2 Cooperative Research Centres (CRCs)

The ARC will not fund projects already funded by a CRC, or which should reasonably be expected to be funded by a CRC given its core business. Researchers from CRCs may apply as Chief Investigators only if they meet all the eligibility criteria for Chief Investigators (including the requirement to have 50 per cent of their salary from a higher education organisation). All other

researchers associated with a CRC, including the Centre Director, who do not satisfy the eligibility criteria for Chief Investigators, may apply as Partner Investigators providing they meet all the Partner Investigator eligibility criteria.

Applicants who have an association with a CRC must explain why the project falls outside the core business of the CRC and therefore should not be funded by the CRC. The ARC reserves the right to make the final decision on whether a proposal is outside the core business of a CRC.

6.3 Cross scheme eligibility

If a funding request for any project, salary or equipment is being submitted 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 will be excluded.

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

6.4 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 their institution's Research Office to the ARC by 31 January 2002. A committee comprising representatives from the NHMRC and the ARC will use the summary to decide which agency is more appropriate for the application. Each applicant will be advised of the decision approximately two weeks after the due date for such requests.

If the applicant fails to meet the above deadline, he/she must submit cross-referenced applications, using the same title, to both the ARC and the NHMRC and must declare the submission on the ARC application form. The ARC will then consider which is the more appropriate granting agency, after which the proposal will proceed through only one granting agency. The applicant will be advised of the outcome.

If an application has potential clinical overlap and neither of the above processes are observed, the application will be excluded, regardless of whether or not it falls under the aegis of the ARC.

6.5 Funding under Linkage—Infrastructure (Equipment and Facilities)

Linkage—Infrastructure (Equipment and Facilities) encourages institutions to develop collaborative arrangements across the higher education sector as a whole and with organisations outside the sector. These grants are intended primarily to support large-scale cooperative initiatives involving two or more institutions. If funding is sought under *Discovery—Projects* for an item of equipment costing more than \$133,000 applicants must lodge a concurrent application for Linkage—Infrastructure (Equipment and Facilities). Further information about Linkage—Infrastructure (Equipment and Facilities) can be found on the ARC web site (www.arc.gov.au).

7 Application process

7.1 Applications

As the application is the prime source of information available to the selection committee, applicants must submit their projects as mature research plans 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, including the

World Wide Web, unless requested by the selection committee. All details in the application, particularly concerning any successful grants, must be current.

7.2 Certification

It is the responsibility of the administering institution to obtain signatures of all participants named at Part B of the application form.

These signatures are to be retained by the administering institution who must provide these certifications if requested. A proforma is available for this purpose on the ARC web site (www.arc.gov.au).

7.3 Submission of applications

Applications under *Discovery—Projects* consist of two parts—

- | | | |
|---|------------------|---|
| 1 | Application form | to be completed in Grant Application Management System (GAMS) |
| 2 | Additional text | Section B10 ‘Research Record Relative To Opportunities’; Sections C2 and C3, ‘justifications of funding requested from the ARC’ and ‘details of non-ARC contributions’; Part E, ‘Project Description’.
If applicable, add supporting documentation:
Section A7.2, ‘additional detail’ for any participants associated with a Commonwealth Government-funded Centre
Section D2, ‘reports on ARC grants’ |

7.3.1 Application format

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

All pages should be in black type, use a single column and 12 point font size on white A4 paper, 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.

7.3.2 Application form and instructions to applicants

The application form is produced by the ARC’s web-based GAMS at www.arc.gov.au.

Applicants should note that a separate document, *Discovery—Projects Instructions to Applicants for Funding Commencing in 2003*, is available from www.arc.gov.au to assist in preparing applications.

7.3.3 Number of copies

An original and **one identical** hard copy only are required. The application must be clipped with NAL clips, not stapled. The application form should be submitted with the additional text, including supporting documentation, interleaved appropriately and the pages numbered consecutively (see *Discovery—Projects Instructions to Applicants for Funding Commencing in 2003*).

7.3.4 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 close of business (AEST) **Friday 15 March 2002**. Applications may be withdrawn but may not be changed after submission. Additions, deletions and modifications will not be accepted after submission. Applications received after close of business (AEST) 15 March 2002 will not be accepted.

7.3.5 *How to complete and submit applications*

Discovery—Projects application forms are produced using the ARC's web-based GAMS. Applicants applying through a university should submit their applications through the Research Office by the university's closing date. University Research Offices have access to GAMS and will allocate GAMS UserIDs and passwords to enable applicants at their university to access the system and create application forms. If an applicant has previously been allocated access to GAMS, his/her UserID and password should still be current.

Private researchers and organisations other than higher education institutions should complete their application forms using GAMS. Organisations should identify a GAMS Contact who should contact the ARC directly. The ARC will assist the GAMS Contact to gain access to the system and to create applications. Private researchers should contact the ARC directly for a GAMS UserID and password and assistance with GAMS submission.

University Research Offices, other administering institutions and private researchers should submit the application form in GAMS and forward the full paper application. Applicants who require an alternative means to submitting the form on-line should contact their university's Research Office or the GAMS Contact in organisations other than universities; private researchers should contact the ARC directly.

Applications should be sent to—

by **mail**, to

Director
Programme Coordination Section
Australian Research Council
GPO Box 2702
CANBERRA ACT 2601

by **courier**, to

Director
Programme Coordination Section
Australian Research Council
AGSO Building
cnr Jerrabomberra Drive and Hindmarsh
Avenue
SYMONSTON ACT 2609

8 Selection and approval process

8.1 Selection criteria

8.1.1 *Projects*

The primary assessment criteria for projects are—

- Investigator(s) (40%)
- Project content
 - significance and innovation (30%)
 - approach (20%)
 - national benefit (10%)

Investigator(s)

- track record relative to opportunities

Project Content

Significance and innovation

- 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 Designated Priority Areas of Research, and if so how does it address the Designated Priority Area of Research?
- are the project aims and concepts novel and innovative?
- will new methodologies or technologies be developed?

Approach

- are the conceptual framework, design, methods and analyses adequately developed, well integrated and appropriate to the aims of the project?

National benefit

- 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 Designated Priority Areas of Research?

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

- their contribution to the project, and
- the research environment of their host institution.

8.2 Assessment and selection procedure

Assessment of applications is undertaken by one or more of the Expert Advisory Committees, which have the right to make decisions solely on the basis of their expertise, and which may:

- exclude ineligible applications

- assign independent readers/assessors to review the applications
- seek applicants' comments on assessors' reports
- 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.
- assess and recommend budgets
- prepare funding recommendations that are submitted to the ARC Board for endorsement and then to the Minister for approval.

The ARC has procedures for declaring conflicts of interest and for members to withdraw from considering particular applications.

8.2.1 *Assessment process*

8.2.1.1 *Exclusion*

Exclusion of ineligible applications by the Expert Advisory Committee which may take place at any time during the selection process. Every effort will be made to exclude ineligible applications and inform applicants early in the assessment process. Applications which contravene the guidelines in any way will be excluded. Grounds for exclusion include:

- failing to submit the application through the appropriate Research Office/Chief Executive Officer for certification
- not meeting the funding threshold when inappropriate budget items are removed
- not meeting the eligibility criteria for a Chief Investigator or Partner Investigator
- exceeding the limits on the number of applications permissible
- not following procedures for ARC/NHMRC coordination
- providing incomplete or misleading information
- designating the application as 'commercial-in-confidence'.

8.2.1.2 *Assignment of assessors*

Each application not initially excluded will be assigned to two Australian-based readers who will be asked to read and rank assigned applications. Readers for each discipline grouping will be drawn from a range of institutions to avoid potential conflicts of interest. Each application will also be assigned to one or more expert assessors of international standing. The assessors will be asked to assess the application against the selection criteria and their reports must include written comment.

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

Applicants may name any person whom they do not wish to assess the application. Detailed written justification, which will be considered by the relevant Expert Advisory Committee, must be submitted through the institution's research office, in a separate letter, and it **must not** accompany the application. The letter must be received before the closing date for applications and be sent to

Director
Programme Co-ordination Section
Australian Research Council
GPO Box 2702

CANBERRA ACT 2601

The Expert Advisory Committee will consider the justification put forward by an applicant to exclude any person as an assessor. However, the Committee reserves to itself the discretion not to give effect to an applicant's request.

8.2.1.3 *Applicant rejoinder*

The readers and assessors' textual comments will be provided to the administering organisation (or in the case of a private researcher, to the applicant) allowing the opportunity for a one-page rejoinder to the comments. To ensure impartiality, the readers and assessors' names are not provided to the applicant. At the same time, the Expert Advisory Committee may add questions to the assessments sent to the applicants for rejoinder. Applicants have 2 weeks in which to submit a response to the ARC.

8.2.1.4 *Recommendations*

The Expert Advisory Committees may make final checks on eligibility. The EACs rank each application relative to the others on the basis of the application, the readers and assessors' reports and the applicant's rejoinders to these assessments. The EACs assess and recommend budgets. The EACs' funding recommendations are submitted to the ARC Board.

8.2.1.5 *Ministerial approval*

A recommendation from the ARC Board is sent to the Minister for his/her consideration. The Minister determines which applications will be offered funding.

8.3 Offer of grant

The successful administering institution will be notified in a letter of offer that will indicate the funding to be provided and will include any special conditions.

A project may not begin, nor grant funds be expended, until the administering institution and each collaborating institution have entered into a written agreement, a copy of which must be forwarded to the ARC. The agreement must cover the role of the Institutions in the project including—

- contributions by the institutions
- payment of salaries for ARC Fellows
- intellectual property arrangements
- an undertaking by the institutions to abide by the Conditions of Grant

8.3.1 *Conditions of grant*

Applicants should familiarise themselves with the Conditions of Grant. These will be available on the ARC website (www.arc.gov.au).

The grantee must accept the Conditions of Grant and the administering institution must sign the Conditions of Grant before grant payments can be made.

8.3.2 *Commencement of projects*

Projects must be commenced by 30 July in the first year of the grant. Failure to do so will result in termination of funding.

9 Appeals process

Appeals will be considered only against process issues and not against committee decisions 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 institution's Research Office and be received, **within 28 days** of the date on the letter notifying the outcome of applications, to:

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

10 Grant administration

10.1 Conditions of Grant

Administering organisations should note that the Conditions of Grant and post-award management cover the following matters.

10.1.1 Reporting requirements

Institutions are required to submit these documents to the ARC—

- *Exceptions Report* on grants that have financial exceptions, by 1 November in the calendar year for which they were granted
- *End-of-year Report* on the expenditure of grant funds, by 31 March in the year following the calendar year for which they were granted
- *Progress Report* on the project, by 31 March in the year following the calendar year for which funds were granted
- *Final Report* on the project, within six months of the completion of the grant
- *Audited Financial Statement*, by 30 June of the year following the year of the grant, in accordance with the appropriate Act.

The ARC reserves the right to suspend payment of further instalments of any current grant until the appropriate reports have been received and assessed as satisfactory.

10.1.1.2 Failure to provide reports

Where an institution fails to submit satisfactory reports, as required, the Minister may determine that funds have not been used in accordance with conditions applicable to the grant, and that all or part of the grant must be repaid. In this case, the ARC may withhold the remainder of the institution's payments under the Programme for the current year or initiate recovery of grant money.

10.1.2 Varying the Conditions of Grant

Requests to vary the Conditions of Grant must be forwarded in writing by the institution's Research Office, or equivalent, to the ARC.

10.2 *Financial management — payments*

Discovery—Projects operates on a calendar year basis. Subject to appropriations, payment of funds will be made to institutions in regular instalments, in accordance with approved payment arrangements made under the *Australian Research Council Act 2001*. Funds must be used only for purposes approved under *Discovery—Projects*, otherwise they must be returned through the usual payments system.

10.3 *Privacy of individuals*

Documents containing personal information are handled and protected in accordance with the provisions of the *Privacy Act 1988*, which sets standards for the collection, storage, use and disclosure of, and access to, personal information. Personal information is disclosed only with permission of the individual to whom it relates or where the Act allows.

10.4 *Confidentiality*

Information contained in applications is regarded as confidential unless otherwise stated and will be received and treated as confidential by the ARC, institutions and assessors.

10.5 *Intellectual property*

Applicants must agree to comply with the intellectual property statute of the administering organisation and with the National Principles of Intellectual Property Management for Publicly Funded Research (available at www.arc.gov.au).

10.6 *Incomplete or misleading information*

It is a serious offence to provide false or misleading information. If an application is incomplete or contains information that is considered misleading, it will 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 appropriate legal advice. The Commonwealth Government is committed to protecting its revenue, expenditure and property from any attempt, either 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—

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

10.7 *Contact points*

For further information, the institution's Research Office should be contacted in the first instance.

Enquiries about *Discovery—Projects* may be addressed to—

Director
Programme Coordination Section
Australian Research Council
GPO Box 2702
CANBERRA ACT 2601
Email: arc@arc.gov.au

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

APPENDIX 1

ARC NOTIONAL FELLOWSHIP SALARIES

2003 Salaries

	Salary Scale*	Salary + 26% on-costs
Australian Postdoctoral Fellowships (APD) / Australian Postdoctoral Fellowships Industry (APDI)	\$49,974	\$62,967
Australian Research Fellowships (ARF / Queen Elizabeth II Fellowships (QEII)		
Step 1	\$62,382	\$78,601
Step 2	\$74,136	\$93,411
Australian Professorial Fellowships (APF)		
Step 1	\$85,634	\$107,899
Step 2	\$100,566	\$126,713

* salary scales and stipends will be indexed to 2003 dollars for successful applications

2003 ARC Fellows Relocation (maximum) Allowances

USA	\$15,000
UK/Europe/Asia (Nth Hem)	\$12,000
Asia (Sth Hem)/NZ	\$ 9,000
Australia	\$ 6,000

APPENDIX 2

Descriptions of Designated Priority Areas of Research

Nano-Materials and Bio-Materials

The development of advanced techniques in materials science and in biotechnology underpins progress and growth in almost every area of industrial and economic activity. The marriage of biotechnology and materials science promises exciting research opportunities, with enormous potential for economic, social and environmental applications and impact.

Biotechnology promises to revolutionise our approaches in areas such as medicine, microbiology and agriculture. Reconstitution of molecular motors, DNA and DNA-protein recognition systems, bio-membranes, and the reconstruction of extracellular and intracellular matrixes, are likely to form the basis of new generation biosensors, bio-inspired materials, high throughput screening systems, chloroplast-like energy transduction systems, and tissue reconstruction procedures.

Materials such as metals, ceramics, polymers, composite materials and natural products are used in a wide range of sectors, such as manufacturing, construction, infrastructure, communications, transport, agriculture and medicine. The ability to ‘tailor’ material properties at scales near to those of individual atoms and molecules promises to allow the production of materials with novel mechanical, thermal, chemical and surface properties, and with vastly improved performance compared to conventional materials. As well, the ability to form nano-scale assemblies of atoms and molecules is vital to advances in computing, drug design, chemical processing and synthesis, and sensor development.

Australia has extensive existing research strengths both in advanced materials science and in biotechnology. Priority funded research into nano-materials and bio-materials would build on this existing base, in these areas of internationally recognised importance, and would lead to:

- higher performance levels, and hence greater materials utilisation efficiency, to improve product performance and conserve natural resources;
- improved cost-effectiveness and value-added use of materials through advanced manufacturing;
- the development of novel devices, sensors, and techniques for medical, biochemical, industrial and environmental applications; and
- revolutionary new ways to produce implants for medical applications, and the ‘production’ of replacement organs.

The Genome-Phenome Link

The complete description of the human genome and those of other organisms has been a major achievement of modern science. There is a heightened expectation that gene therapies and the genetic improvement of plants and animals of agricultural importance by gene transfer will lead, among other things, to the eradication of inherited disease and to a solution to the world’s food problems. However, the connection between an organism’s genes (its genome) and its physical appearance and behaviour (its phenotype) is exceptionally complex and, at present, highly elusive. The growth and differentiation of cells and an organism’s predisposition to disease can be controlled by multigene clusters and fine control of the gene expression mechanisms. Although molecular biologists have been very successful in identifying and manipulating genes, the control of

gene expression and the interactions of gene products which lead ultimately to the expression of a unique phenotype are poorly understood.

The reductionist approaches of molecular biologists have often focused on the analysis of bimolecular systems (protein-protein, protein-DNA, protein lipid). Although it has been revealing to understand these interactions, the reactions that lead to the expression of a unique phenotype are infinitely more complex. Nevertheless, molecular genetics coupled with the use of modern technologies based on microchip gene arrays and high through-put and high sensitivity screening are allowing scientists to experimentally access these complex systems and to describe the way in which environmental and genetic factors cooperate positively or negatively to determine the final phenotype.

The post-genomic era will see an increasing focus on the nature of the link between the genome and phenome. Molecular biologists will continue to describe DNA sequences, but there will be an increasing need for biologists who understand not only molecular genetics but also the behaviour of the whole cell, the whole tissue and the whole organism. The problem requires a team approach and the collaboration of molecular biologists, cell biologists, physiologists and biophysicists.

Key areas of study include:

- Genomics and bioinformatics;
- cell differentiation;
- control of gene expression;
- cell signalling pathways;
- energy transduction;
- multigene control of the phenotype traits; and
- identification of quality and disease resistance genes in plants and farm animals.

Complex Systems

Real-world systems are almost always made up of a large number of components that interact in varying and complex ways. This leads to complex behaviour that is difficult to understand, predict and manage. Research into the characterisation and control of such systems attempts to describe them in explicit (often mathematical) ways, in order to provide enhanced degrees of understanding, predictability, control and efficiency in management.

Very simple control systems include the thermostat that controls the temperature of a hot water system, or a street light that comes on at dusk. Much more complex systems which benefit from the application of research into control and system characterisation include the Internet, air traffic control, irrigation, robotics and a wide array of systems associated with power distribution, telecommunications, defence, manufacturing, transport and finance, as well as ecological and biological systems.

Complex systems are modelled and control strategies implemented by mathematicians, computer scientists, information scientists, engineers and other scientists from a broad range of disciplines.

Relevant areas of research include:

- system analysis and control theory;
- mathematical and statistical modelling;

- system and software engineering;
- software-hardware co-design;
- intelligent systems, and
- communications engineering.

Photon Science and Technology

Photon Science and Technology is one of the major growth areas of modern science and technology. Unexpected discoveries in basic photon science, new applications that penetrate many disciplines very swiftly, and very rapid idea-to-market cycles characterise the field. Australia has exceptional quality and some considerable breadth and depth in photon science research, with a demonstrated capacity to found and grow commercial ventures.

Photon Science and Technology includes:

- modern areas such as:
 - laser science and applications;
 - optical fibres and communication systems;
 - photonics, linking photon science and electronics;
 - materials characterisation by synchrotron and other X-ray sources; and
 - atom optics and quantum computing; and
- traditional areas such as:
 - optical materials and components including astronomical instrumentation;
 - solar energy conversion (for example silicon photovoltaics and artificial photosynthesis);
 - photometry and spectroscopy; and
 - human vision.