



**Australian Government**

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**Australian Research Council**

# **Discovery Indigenous Researchers Development**

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**Funding Rules for Funding commencing in**

**2005**

Australian Research Council  
**Discovery Indigenous Researchers Development**  
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## Ethics

All research proposals should conform with the principles outlined in the Joint NHMRC/AVCC Statement and Guidelines on Research Practice (1997) (at <http://www.nhmrc.gov.au/issues/researchethics.htm>) and, as applicable, the principles outlined in the NHMRC's National Statement on Ethical Conduct in Research Involving Humans (at: <http://www.nhmrc.gov.au/publications/synopses/e35syn.htm>) and the principles outlined in the NHMRC's codes on animal research (at <http://www.nhmrc.gov.au/issues/animalethics.htm>).

## Acknowledging ARC support

The ARC expects that research funded by the ARC will be appropriately acknowledged.

When, at any time during or after completion of a Project, the Institution or researcher publishes material, books, articles, television or radio programs, newsletters or other literary or artistic works which relate to the Project and/or Research Cadetship, the Institution or researcher shall acknowledge, at a prominent place in the publication, the support of the ARC in a form acceptable to the ARC.

Advice on acceptable forms of acknowledgement and use of the logo is provided on the ARC website at [www.arc.gov.au](http://www.arc.gov.au).

## Acronyms

The following acronyms are used in ARC Funding Rules.

<b>AEST</b>	Australian Eastern Standard Time
<b>AIMS</b>	Australian Institute of Marine Science
<b>ANSTO</b>	Australian Nuclear Science and Technology Organisation
<b>APA</b>	Australian Postgraduate Award
<b>APAI</b>	Australian Postgraduate Award (Industry)
<b>APD</b>	Australian Postdoctoral Fellowship
<b>APDC</b>	Australian Postdoctoral Fellowship (CSIRO)
<b>APDI</b>	Australian Postdoctoral Fellowship (Industry)
<b>APF</b>	Australian Professorial Fellowship
<b>ARC</b>	Australian Research Council
<b>ARCIF</b>	Australian Research Council International Fellowship
<b>ARF</b>	Australian Research Fellowship
<b>AVCC</b>	Australian Vice-Chancellors' Committee
<b>CI</b>	Chief Investigator
<b>CSIRO</b>	Commonwealth Scientific and Industrial Research Organisation
<b>DIRD</b>	Discovery Indigenous Researchers Development
<b>DSTO</b>	Defence Science and Technology Organisation
<b>EAC</b>	Expert Advisory Committee
<b>ECR</b>	Early Career Researcher
<b>GA</b>	Geoscience Australia
<b>GAMS</b>	Grant Application Management System
<b>GST</b>	Goods and Services Tax
<b>HECS</b>	Higher Education Contribution Scheme
<b>KCTR</b>	Key Centre for Teaching and Research
<b>LASP</b>	Learned Academies Special Projects
<b>LIEF</b>	Linkage Infrastructure Equipment and Facilities Program
<b>LIF</b>	Linkage Industry Fellowship
<b>NCGP</b>	National Competitive Grants Program
<b>NHMRC</b>	National Health and Medical Research Council
<b>PI</b>	Partner Investigator
<b>QEII</b>	Queen Elizabeth II Fellowship
<b>RC-ATSI</b>	Research Cadetship-Aboriginal and Torres Strait Islander
<b>RIEF</b>	Research Infrastructure Equipment and Facilities Scheme
<b>SPIRT</b>	Strategic Partnerships with Industry – Research and Training
<b>SRC</b>	Special Research Centres
<b>URL</b>	Universal Resource Locator

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## **1. Introduction**

*Discovery Indigenous Researchers Development* is a special program within the ARC's application based Discovery scheme. The program provides support for Indigenous Australian researchers to undertake research projects which may lead to an advance in the understanding of a subject or contribute to the solution of an important practical problem.

These Funding Rules are written on the basis that it is the researcher who is the applicant. However, *Discovery Indigenous Researchers Development* funding from the ARC is provided to eligible Higher Education Institutions (Institutions) listed at Appendix 1, not to individual researchers.

## **2. Objectives**

*Discovery Indigenous Researchers Development* aims to:

- develop the research expertise of Indigenous Australian researchers to a level competitive with mainstream research funding;
- support fundamental research and research training by Indigenous Australians individuals and teams;
- provide Indigenous Australian researchers with experience in the preparation of research funding applications; and
- expand Australia's knowledge base and research capability.

## **3. Description**

*Discovery Indigenous Researchers Development* provides funding for Indigenous Australian researchers to develop research expertise to a level competitive with mainstream research funding. By supporting early career Indigenous researchers, the program also encourages researchers to participate in the ARC's National Competitive Grants Program.

A Research Cadetship is available under *Discovery Indigenous Researchers Development*.

*Discovery Indigenous Researchers Development* provides funding for research projects undertaken by Indigenous Researchers as part of the requirements of their higher research degrees.

Chief Investigators and Research Cadets must be Indigenous researchers of Australian Aboriginal or Torres Strait Islander descent, who identify and are accepted as such by the community in which they live.

Applicants may nominate Mentors and, where applicable, Supervisors of their postgraduate research who will support them in developing as researchers. Mentors and Supervisors may be Indigenous, but it is not a requirement that they be Indigenous.

### **3.1. Type of research supported**

*Discovery Indigenous Researchers Development* 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; and
- 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.

### **3.2 National Research Priorities**

The Minister for Education, Science and Training has designated the following areas as national research priorities for the 2005 funding round:

- Research Priority 1: An Environmentally Sustainable Australia
- Research Priority 2: Promoting and Maintaining Good Health
- Research Priority 3: Frontier Technologies for Building and Transforming Australian Industries
- Research Priority 4: Safeguarding Australia

These areas of research will be referred to as Designated National Research Priorities. Within each Research Priority is a number of Priority Goals which are listed below:

- Research Priority 1: An Environmentally Sustainable Australia
  - Priority Goals
    - PG 1 Water – a critical resource
    - PG 2 Transforming existing industries
    - PG 3 Overcoming soil loss, salinity and acidity
    - PG 4 Reducing and capturing emissions in transport and energy generation
    - PG 5 Sustainable use of Australia's biodiversity
    - PG 6 Developing deep earth resources
    - PG 7 Responding to climate change and variability
- Research Priority 2: Promoting and Maintaining good Health

### Priority Goals

- PG 1 A healthy start to life
  - PG 2 Ageing well, ageing productively
  - PG 3 Preventive healthcare
  - PG 4 Strengthening Australia's social and economic fabric
- Research Priority 3: Frontier Technologies for Building and Transforming Australian Industries
    - Priority Goals
    - PG 1 Breakthrough science
    - PG 2 Frontier technologies
    - PG 3 Advanced materials
    - PG 4 Smart information use
    - PG 5 Promoting an innovation culture and economy
  - Research Priority 4: Safeguarding Australia
    - Priority Goals
    - PG 1. Critical infrastructure
    - PG 2. Understanding our region and the world
    - PG 3. Protecting Australia from invasive diseases and pests
    - PG 4. Protecting Australia from terrorism and crime
    - PG 5. Transformational defence technologies

Full descriptions of these Designated National Research Priorities and their associated Priority Goals can be found in Appendix 3, and on the ARC web site ([www.arc.gov.au](http://www.arc.gov.au)).

## 4. Eligibility

### 4.1. Applicant roles

There are four applicant roles available under *Discovery Indigenous Researchers Development*:

- Chief Investigator (CI)
- ARC Research Cadetship-Aboriginal and Torres Strait Islander (RC-ATSI)
- Mentor (M)
- Supervisor (S)

To be eligible for consideration, an application must have at least one CI or RC-ATSI applicant.

### 4.2. General eligibility

To be eligible to apply for *Discovery Indigenous Researchers Development* funding as a Chief Investigator or RC-ATSI, a researcher must be of Australian Aboriginal or Torres Strait Islander descent and must:

- identify as an Australian Aboriginal or Torres Strait Islander; and
- be accepted as such by the community in which s/he lives or has lived.

All Chief Investigators and RC-ATSI applicants must be Indigenous Australians. It is not a requirement that Mentors and Supervisors be Indigenous.

### **4.3. Eligibility to apply as 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. The ARC reserves the right to rule on the question of capacity.
- 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 and Indigenous Affairs before taking up the grant.
- He/she must meet at least one of the following three criteria:
  - be associated with, or employed by an eligible Institution, listed in Appendix 1. The applicant must hold a substantive position at, and/or derive at least 50 per cent of her/his salary from, that Institution; and/or
  - be associated with, or employed by, an Australian publicly funded organisation not directly funded to carry out research but with research-related purposes and objectives (such as a museum). The applicant must hold a substantive position at, and/or derive at least 50 per cent of her/his salary from, that organisation; and/or
  - be a currently-enrolled candidate for a postgraduate research degree.

Applicants must have completed successfully a research degree or demonstrate equivalent research capacity and experience in their applications, to the satisfaction of the Selection Committee. Researchers who are enrolled in higher research degrees may apply for research funding, where the project forms part of their current research towards the degree. In this case, applicants will still need to demonstrate research capacity and experience.

Indigenous Australian researchers are not eligible to apply for funding if they:

- are undertaking an undergraduate degree or an undergraduate diploma;
- currently hold or have held, a nationally competitive grant or fellowship from the ARC (other than an award made under the *Discovery Indigenous Researchers Development* program) or the NHMRC; or
- derive more than 50 percent of appropriated salary from a research organisation outside the higher education sector that is funded primarily for research from State/Territory or Commonwealth Government sources, for example:

- Defence Science and Technology Organisation (DSTO);
- Commonwealth Scientific and Industrial Research Organisation (CSIRO);
- Geoscience Australia (GA); and
- State/Territory Research and Development (R&D) organisations.

#### **4.4. Eligibility to apply as RC-ATSI**

RC-ATSI are one or two years' full-time employment on an approved project and are tenable at eligible Institutions.

RC-ATSI are not eligible to apply for a second RC-ATSI. However, they may apply for an APD (*Discovery Projects* or APDI (*Linkage Projects*) in the final year of their Research Cadetship.

Applicants who apply for a RC-ATSI may apply for both a postdoctoral Cadetship, which provides a salary, and for a research project grant. Applicants who apply for RC-ATSI but not for research funding must demonstrate how their research will be supported.

To be eligible to apply as an RC-ATSI, 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. The ARC reserves the right to rule on the question of capacity;
- 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 and Indigenous Affairs before taking up the grant; and
- He/she must be a researcher who has been awarded a PhD, or equivalent research doctorate, since 1 January 2001, or has not yet submitted the PhD but will do so before 31 December 2004. If an RC-ATSI is offered, it will be contingent upon receiving official confirmation that the thesis has been submitted by 31 December 2004. The cadetship cannot be taken up until formal advice has been received that the PhD has been awarded. If these conditions have not been satisfied, the offer will be withdrawn.

##### **4.4.1. Indigenous Australians not eligible to apply as RC-ATSI**

Indigenous Australian researchers are not eligible to apply for a grant if they:

- are undertaking an undergraduate degree or an undergraduate diploma; and/or
- currently hold or have held, a nationally competitive grant or fellowship from the ARC or the NHMRC.

##### **4.4.2. Eligibility exemption on grounds of career interruption**

In some circumstances, an applicant who is seeking an RC-ATSI may not satisfy the eligibility criteria due to research career interruption (including working in universities in

non-research positions). If this is the case, an applicant may apply for an exemption from the eligibility criteria.

If, after reading these Funding Rules, a researcher is unsure whether he/she is eligible to apply for an RC-ATSI, he/she must consult the Institution's research office in the first instance.

If the candidate does require an eligibility exemption, a request must be lodged in writing, through the Institution's research office, with the *Discovery Indigenous Researchers Development* Program Coordinator, Disciplines and Programs Branch, ARC, before Friday [DATE] 2004. 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.

If an applicant seeking an eligibility exemption fails to meet the above deadline, her/his subsequent application will be deemed ineligible.

#### **4.5. Mentors and supervisors**

As *Discovery Indigenous Researcher Development* aims to develop the research expertise of successful applicants, the strength of the research environment and support for the applicant plays an important role in assessing applications. In particular, it is strongly recommended that a Mentor (who does not need to be an Indigenous Australian) be associated with the proposal to provide specific expert advice on the subject of the research.

If the proposed research is part of the research towards a higher research degree, it is strongly recommended that the applicant's Supervisor be consulted on the preparation of the application and be associated with the proposal. The roles of Supervisor and Mentor can be filled either by the same individual or by separate persons, and applications may nominate both a mentor and supervisor.

#### **4.6. Number of applications/grants**

##### **4.6.1. Limit on the number of applications**

In any one year, the ARC will consider no more than two initial applications to *Discovery Indigenous Researchers Development* from any one researcher. Applicants must ensure that they do not exceed the limit for *Discovery Indigenous Researchers Development* grants (refer to paragraph 4.6.2). If two applications are submitted by any one researcher, at least one of these must involve collaboration with another Chief Investigator or RC-ATSI.

Submitting initial applications that contravene the above limits will result in the automatic exclusion of all applications involving that researcher as a Chief Investigator or RC-ATSI.

Only one application to the *Discovery Indigenous Researchers Development* may be submitted in respect of a single project in the same calendar year, regardless of any variation in the proposed administering Institution. Submitting similar or duplicate applications will result in automatic exclusion of all applications. The ARC reserves the right to determine whether applications are duplicates or sufficiently similar to warrant exclusion

##### **4.6.2. Limit on the number of grants**

The following limits apply to grants awarded under the *Discovery Indigenous Researchers Development*:

- A researcher may not hold more than two *Discovery Indigenous Researchers Development* grants on which he/she is CI or RC-ATSI; and
- A researcher may not hold more than one *Discovery Indigenous Researchers Development* grant on which he/she is the sole CI or sole Research Cadet.

Applicants may apply for *Discovery Indigenous Researchers Development* grants only to the extent that, if all were successful, they would not hold more than the maximum number of grants permitted in 2005. Submitting initial applications that exceed the above limits will result in the automatic exclusion of all applications involving that applicant as a CI, PI or Fellow.

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

## **5. Funding**

### **5.1. Level of funding**

The minimum grant size is \$10,000 per annum. This level refers to the average annual amount that the ARC deems necessary for the project over the full period of the grant (not the average amount applied for, nor the amount sought in the first year).

The RC-ATSI salary is commensurate with current ARC APD salary rates (see Appendix 2).

### **5.2. Duration of funding**

*Discovery Indigenous Researchers Development* grants may be awarded for one to three years, subject to parliamentary appropriation. The ARC may award grants for a duration different from that requested.

The RC-ATSI is one or two years' full-time employment on an approved project. Successful RC-ATSI applicants who hold continuing non-research positions must provide evidence that they have either resigned or been granted leave of absence from the substantive position before commencing the Cadetship. Applicants may apply for one or two years' Cadetship but the ARC reserves the right to offer a one year Cadetship.

### **5.3. Areas of investigation not supported**

*Discovery Indigenous Researchers Development* 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 Indigenous Researchers Development* does not support the following budget items:

- Salaries of Chief Investigators: the Commonwealth will not provide support, in whole or in part, to meet the salaries of Chief Investigators. Salaries for RC-ATSI are provided.
- *Discovery Indigenous Researchers Development* funding is not provided to fund teaching. However, the Committee may consider a request 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 is limited to the maximum base rate of \$29,666 (2003\$), 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.
- Special Studies Programs: funds are not provided for travel or other expenses for researchers when on a Special Studies Program. Travel to special facilities away from the base where a researcher is conducting her/his study is seen as part of the normal costs of a Special Studies Program.
- International students' fees and Higher Education Contribution Scheme (HECS) liability: funds are not provided to pay the fees of international students or 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 Institution must certify its agreement to provide the following basic facilities which will not be funded under *Discovery Indigenous Researchers Development*:
  - 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; and
  - transcription services where the project is linked to higher degree studies.
- Publication costs, including page costs, are not funded under *Discovery Indigenous Researchers Development*.

## **6. Cross-program funding**

The ARC will not fund research already funded by the Commonwealth. The ARC reserves the right to determine if a proposed research project duplicates research already being funded.

If a funding request for any project, salary or equipment is being submitted to any other funding body, the *Discovery Indigenous Researchers Development* application must provide details of the additional funding application. Applicants must indicate the level of funding obtained, or being sought, from all other programs and list all existing research funding from all sources.

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

## **7. Application process**

### **7.1. Applications**

As the application is the prime source of information available to the selection committee, it must contain all the information necessary for assessment of the project without the need for further written or oral explanation, or for reference to additional documentation, including the World Wide Web, unless requested by the committee. All details in the application, particularly concerning any successful grants, must be current when submitted

### **7.2. Certification**

It is the responsibility of the administering Institution to obtain signatures of the Chief Investigators and RC-ATSI's named at part A2 of the application form. These signatures are to be retained by the administering Institution which must provide these certifications if requested. A pro forma is available for this purpose on the ARC website ([www.arc.gov.au](http://www.arc.gov.au)).

### **7.3. Submission of applications**

Applications under *Discovery Indigenous Researchers Development* consist of two parts:

- Application form, to be completed in Grant Application Management System (GAMS)
- Additional text:

- Section A7.2, 'additional detail' for any participants
- Section B9, 'Research record relative to opportunities';
- Sections C2 and C3, 'justifications of funding requested from the ARC' and 'details of non-ARC contributions';
- Section D2, 'reports on ARC grants'
- Part E, 'Project description'.
- If applicable, add supporting documentation: 'additional detail' for any participants associated with a Commonwealth Government-funded Centre.

Curricula vitae and resumes should not be submitted as a part of the application. Additional unsolicited text will be removed from the application.

#### **7.4. 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 and the reproduction quality may be degraded.

Pages in excess of stipulated limits may be removed before assessment.

#### **7.5. Application form and instructions to applicants**

The application form is produced by the ARC's web-based GAMS at [www.arc.gov.au](http://www.arc.gov.au).

Applicants should note that a separate document, *Discovery Indigenous Researchers Development Instructions to Applicants for Funding Commencing in 2005*, will be available from [www.arc.gov.au](http://www.arc.gov.au) to assist in preparing applications

#### **7.6. 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 should be submitted with the additional text, including supporting documentation, interleaved appropriately and the pages numbered consecutively starting at the beginning of the application (*see Discovery Indigenous Researchers Development Instructions to Applicants for Funding Commencing in 2005*).

#### **7.7. Closing date for applications**

Paper originals of the applications for *Discovery Indigenous Researchers Development* must be received by the ARC, and the application form completed using GAMS must be submitted, by 5.00 pm (AEST) **Friday 7<sup>th</sup> May 2004**. 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 (AEST) **Friday 7<sup>th</sup> May 2004** will not be accepted.

## **7.8. How to complete and submit applications**

*Discovery Indigenous Researchers Development* application forms are produced using the ARC's web-based GAMS. Applicants 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, her/his UserID and password should still be current. Applicants who require an alternative means to submitting the form on-line should contact their university's Research Office.

Applications should be sent to:

by mail, to

Discovery Indigenous Researchers Development Program Coordinator  
Disciplines and Programs  
Australian Research Council  
GPO Box 2702  
CANBERRA ACT 2601

by courier, to

Discovery Indigenous Researchers Development Program Coordinator  
Disciplines and Programs  
Australian Research Council  
Geoscience Australia Building  
cnr Hindmarsh Drive and  
Jerrabomberra Avenue  
SYMONSTON ACT 2609

## **8. Selection and approval process**

### **8.1. Selection criteria**

Primary criteria in considering applications are:

- the quality of the research project being proposed;
- the quality of the researcher(s) proposing the research project; and
- the quality of the research environment and/or mentor.

Other considerations may be:

- the probable impact of a successful outcome for the research project; and/or
- the extent to which the successful completion of the research project will train and equip the researcher to compete for mainstream research funding.

If an application is judged to be outside the scope of the *Discovery Indigenous Researchers Development*, it may be referred for consideration under other ARC programs.

#### **8.1.1. Research Cadetship-Aboriginal and Torres Strait Islander**

RC-ATSI applicants must provide additional details, in the text of her/his application (at Section B9.6) of

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

## **8.2. Assessment and selection procedure**

Assessment of applications is undertaken by a selection committee comprising two or more members of the ARC Expert Advisory Committees. The selection committee 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 applicants' response to these assessments;
- assess and recommend budgets; and
- prepare funding recommendations that are submitted to the ARC Board and, subject to their views, 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. Exclusion of ineligible applications**

Exclusion of ineligible applications by the ARC 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 that contravene the Funding Rules in any way may be excluded. Grounds for exclusion include, but are not limited to:

- failing to submit the application through the appropriate Research Office/Chief Executive Officer for certification;
- not meeting the eligibility criteria for a Chief Investigator or RC-ATSI;
- exceeding limits on the number of applications permissible;
- incomplete, inaccurate or misleading information (refer to 11.4); and
- designating the application as 'commercial-in-confidence'.

## **8.3. Assignment of assessors**

Each application not initially excluded will be assigned to one or more Australian-based readers who will be asked to read and rank assigned applications. Although every effort will be made to obtain one or more assessments for each application, the ARC reserves the right to make decisions based on any number of assessments or solely on the expert assessment of the selection committee.

Applicants may name any person whom they do not wish to assess the application. Detailed written justification 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

*Discovery Indigenous Researchers Development Program Coordinator*  
Disciplines and Programs Branch  
Australian Research Council  
GPO Box 2702  
CANBERRA ACT 2601

#### **8.4. Applicant rejoinders**

The readers' textual comments will be provided to the administering Institution allowing the opportunity for a one-page rejoinder to the comments. To ensure impartiality, the readers' names are not provided to the applicant. At the same time, the selection committee may add questions to the assessments sent to the applicants for rejoinder. Applicants have at least 10 working days in which to submit a rejoinder to the ARC.

#### **8.5. Recommendations**

The selection committee may make final checks on eligibility. The committee ranks each application relative to the others on the basis of the application, the readers' reports and the applicants' rejoinders to these assessments. The committee assesses and recommends budgets. The committee's funding recommendations are submitted to the ARC Board.

#### **8.6. Ministerial approval**

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

#### **8.7. Offer of Funding**

The successful administering Institution will be notified in a letter of offer, that will indicate the funding to be provided and will include the Funding Agreement.

A project may not begin, nor ARC funding assistance be expended before the Funding Agreement is signed by the administering Institution and by the ARC.

### **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](http://www.arc.gov.au)).

The form must be lodged through the administering Institution's Research Office to, 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 Funding**

### **10.1. Funding Agreement**

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

Projects must commence as required by the Funding Agreement. Failure to do so will result in termination of funding.

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

#### **10.1.1. Varying the Funding Agreement**

Requests to vary the Funding Agreement must be forwarded in writing by the Institution's Research Office, or equivalent, to the ARC. Forms are available for variation requests on the ARC website ([www.arc.gov.au](http://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 Institution's Research Office, or equivalent, to the ARC. The Funding Approval may be varied where:

- the organisation's involvement with the research program ends or substantially changes;
- the research program changes so that it is no longer consistent with the description in the Funding Approval;
- the person named in the funding approval as the person leading the research program ceases to lead the program;
- any of the collaborating partner institutions involved in the research program end or substantially change their involvement with the program.

#### **10.1.3. Reports**

Administering Institutions are required to submit reports concerning funded projects to the ARC on a regular basis, as 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*. Information about the *Privacy Act* is available at <http://www.privacy.gov.au/act/index.html>

### **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 institution of any applicant, the identity of the administering Institution and any other institution or 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. 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](http://www.arc.gov.au)) and act in accordance with any intellectual property policies of the applicant's Institution.

### **11.4. 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 (see item 8.2.1).

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 Government 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:

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

### **11.5. Insurance and liabilities**

Institutions 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](http://www.arc.gov.au)).

### **11.6. Contact points**

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

Enquires about *Discovery Indigenous Researchers Development* may be addressed to:

Discovery Indigenous Researchers Development Program Coordinator  
Disciplines and Programs Branch  
Australian Research Council

GPO Box 2702  
CANBERRA ACT 2601

## **Appendix 1. Eligible Higher Education Institutions**

### 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

### 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  
Northern Territory University  
Batchelor College

Australian Capital Territory  
The Australian National University  
University of Canberra

Multi-State  
Australian Catholic University

## Appendix 2. ARC Notional Fellowship Salaries for 2005

Salaries are indexed annually.

Fellowship	Step	Salary	26% oncosts	TOTAL
Australian Postdoctoral Fellowship (APD); Australian Postdoctoral Fellowship Industry (APDI); Linkage Australian Postdoctoral Fellowship CSIRO; Research Cadetship-Aboriginal and Torres Strait Islander (RC-ATSI)		\$52,240	\$13,582	\$65,822
Australian Research Fellowship (ARF) □		\$65,210	\$16,955	\$82,165
Queen Elizabeth II Fellowship (QEII)		\$77,497	\$20,149	\$97,646
Australian Professorial Fellowship (APF)	Step 1	\$89,516	\$23,275	\$112,791
Australian Professorial Fellowship (APF)	Step 2	\$105,125	\$27,333	\$132,458
Federation Fellowship		\$235,201	\$61,152	\$296,353

2003 ARC Fellows and Research Cadets Relocation (maximum) Allowances (Australian dollars)

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

## **Appendix3. Descriptions of Designated 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 'infotainment'. 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.