



FEDERATION FELLOWSHIPS

Funding rules for applicants

for funding commencing in

2003

Australian Research Council
Federation Fellowships
Funding Rules for Funding Commencing in 2003

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Acronyms

The following acronyms are used throughout these funding rules .

ARC	Australian Research Council
CEO	Chief Executive Officer
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DSTO	Defence Science and Technology Organisation
NHMRC	National Health and Medical Research Council

Definition

An ‘administering institution’ is the institution which receives funds for the award. The administering institution signs the Funding Contract.

Australian Research Council **Federation Fellowships** Funding Rules for Funding Commencing in 2003

1 Introduction

The Australian Research Council's Federation Fellowships are innovative and highly prestigious awards designed to develop and retain Australian skills. By providing an internationally competitive salary, the Federation Fellowships will support and encourage Australian researchers to stay in, or return to, Australia to conduct research of significant national economic, environmental and social benefit. It is expected that Federation Fellows will make a major contribution to the Australian research effort and national innovation system.

Up to 25 Federation Fellowships with a standard tenure of five years will be awarded for funding commencing in 2003. Applications are invited from outstanding individuals with exceptional, internationally renowned research careers in any discipline. The Fellowships are available for tenure at Australian higher education institutions and Australian research organisations that are funded primarily for research from State or Commonwealth Government sources.

2 Objectives

The introduction of the Federation Fellowships represents the Australian Research Council's commitment to support excellence in research, attract and retain world-class Australian researchers in key positions, and create new rewards and incentives for the application of their talents in Australia.

The Federation Fellowships aim to:

- attract and retain leading Australian researchers in key positions;
- attract outstanding international researchers to undertake research which is of national benefit to Australia;
- support research that will result in economic, environmental and social benefits for Australia;
- expand Australia's knowledge base and research capability;
- support excellent, internationally competitive research by individuals; and
- build and sustain world-class research teams and linkages.

3 Description

The Federation Fellowships provide opportunities for outstanding Australian researchers to return to, or remain in key positions in Australia. Outstanding international researchers may also be attracted to undertake research which is demonstrated to be of national benefit to Australia.

Through the Federation Fellowships it is expected that researchers of international renown will make a significant contribution to the generation of knowledge and the Australian innovation

system. They will also assist with the development of stronger links between researchers, industry and the international research community.

3.1 Type of research supported

The Federation Fellowships have been designed to support outstanding researchers with track records of international renown, whose research may encompass:

- *pure basic research*: experimental and theoretical work undertaken to acquire new knowledge without looking for long-term benefits other than the advancement of knowledge;
- *strategic basic research*: 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*: 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. Descriptions of these Areas can be found in Appendix 1, and on the ARC web site (www.arc.gov.au). Applications in these areas are encouraged.

4 Eligibility

4.1 Eligibility criteria for Federation Fellows

Applicants will be distinguished researchers who are at the forefront of international research and who are either:

- Australia-based Australian researchers who have a research record of highest international standing; or
- expatriate Australian researchers, with research records of high international standing, who wish to return to pursue research in Australia; or
- extremely high profile non-Australian researchers who wish to pursue research which would provide major benefit to Australia, within Australia.

Preference for Federation Fellowships will be given to Australian citizens and permanent residents. There is scope for up to five Federation Fellowships to be awarded in any given year to researchers who are not Australian citizens or permanent residents. Applicants who do not currently hold Australian citizenship or permanent resident status at the time of application will need to

demonstrate that the Fellowship would be of national benefit to Australia. These applicants will also need to demonstrate a higher level of performance than their Australian competitors or be able to offer special expertise, extensive skills or exceptionally high performance levels not available locally, which will be of benefit to Australian research in facilitating the transfer of critical knowledge to Australia and Australians.

Federation Fellows 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.

Although applicants are required to reside predominantly in Australia, it is expected that the holders of Federation Fellowships will pursue research that is at the leading edge, internationally, in their field. To facilitate this aim, Federation Fellows may undertake periods of research overseas. The option of approved periods overseas for Federation Fellowship holders is available in instances in which it can be demonstrated clearly that this is in the best interests of the research and its outcomes, and of national benefit to Australia. Periods overseas of up to two years in total during the period of award may be approved.

Federation Fellowships are tenable only on a full-time basis at Australian higher education institutions and other Australian research organisations, funded primarily for research from State, Territory or Commonwealth Government sources, such as DSTO and CSIRO.

Researchers supported by the NHMRC are eligible to apply for Federation Fellowships. The ARC does not support clinical research in either medicine or dentistry (see below).

Individual researchers with both continuing and non-continuing appointments are eligible to apply for Federation Fellowships. Successful Fellowship applicants must relinquish their existing positions before taking up the award.

Federation Fellows are expected to work full-time on research and research-related activities. While a Fellow's principal duty is to undertake research, it is also important to specify the role he/she would be expected to play within the host department or institution. Research-related activities could include supervision of postgraduate students, but do not include a major role in administration.

Directors of Research Centres, including ARC Special Research Centres and Key Research Centres, are eligible to apply for the Federation Fellowships, but if successful must relinquish their positions prior to taking up a Federation Fellowship.

Where successful Federation Fellowship applicants are associated with successful ARC Centres of Excellence applications, the ARC will negotiate arrangements with the administering institution to ensure that there is an appropriate relationship between Fellowship and Centre functions.

4.2 Number of applications/grants

4.2.1 *Limit on the number of applications*

In any one year, the ARC will consider no more than one application for a Federation Fellowship from any one researcher, regardless of any variation in the proposed administering institution. This condition does not apply if a second round of applications is sought in the same calendar year.

4.2.2 *Limit on the number of ARC grants*

Successful applicants will be required to relinquish any current Fellowships before accepting a Federation Fellowship. This applies to all ARC Fellowships and any other Fellowship held from another funding body.

Federation Fellowship holders are eligible to hold the maximum number of grants in all other ARC schemes. This includes (but is not exclusive to) 2 Discovery-Projects and 4 Linkage-Projects.

5 Funding

5.1 Support Available

Successful Federation Fellows will attract salary commensurate with internationally competitive salaries to help attract and retain key researchers in Australia. At \$A229,923 per annum (2002 dollars) plus 26% on-costs, these Fellowships provide salaries substantially higher than those payable under other Fellowship Schemes in the ARC's National Competitive Grants Programme.

The Federation Fellowships have a standard tenure of five years.

5.2 Administering Institution for Fellows

The institution will be required to certify its agreement to provide a high level of support, including facilities, access to support requirements such as qualified technicians, all library services and any equipment necessary for the conduct of the research. Institutions will be required to show their commitment to the Fellow by providing a detailed submission for their contributions towards the Fellowship which could include cash and in-kind support (Part E of the application form).

The level of guaranteed support must match, at least dollar-for-dollar, the financial assistance (in salary) provided by the Commonwealth over the life of the Fellowship.

5.3 Areas of investigation/work not supported

The Federation Fellowships do **not** support the following work:

- clinical medical and dental research;
- 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 sought more appropriately 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; and
- 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.

6 Application process

6.1 Applications

As the application is the prime source of information available to the selection committee, applicants must include in their Fellowship application a mature research plan ready for implementation. The application must contain all the information necessary for assessment of the proposal 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.

6.2 Submission of applications

Applications under Federation Fellowships consist of two parts:

- | | | |
|---|------------------|--|
| 1 | Application form | to be completed in on-line |
| 2 | Additional text | Sections B8, C2 and Part D; and supporting documentation
Part E |

6.2.1 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.

6.2.2 Application form and instructions to applicants

The application form is produced by the ARC's web-based Grant Application Management System GAMS at www.arc.gov.au.

The application form is organised into five modules:

- Part A Administrative summary
- Part B Personnel
- Part C Research Support
- Part D Description of Project/Program of Research
- Part E Description of Facilities and Support by Administering Institution

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

6.2.3 *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 *Federation Fellowships: Instructions to Applicants for Funding Commencing in 2003*).

6.2.4 *Closing date for applications*

Paper originals of the applications for *Federation Fellowships* must be received by the ARC, and the application form completed using GAMS must be submitted by close of business (AEST) **25 October 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) 25 October 2002 will not be accepted.

6.2.5 *How to complete and submit applications*

Federation Fellowships 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.

Research Offices should send applications—

by **mail**, to

Co-ordinator
Federation Fellowships
Program Coordination Section
Australian Research Council
GPO Box 2702
CANBERRA ACT 2601

by **courier**, to

Co-ordinator
Federation Fellowships
Australian Research Council
Geoscience Australia
cnr Jerrabomberra Ave and Hindmarsh
Drive
SYMONSTON ACT 2609

7 Selection and approval process

7.1 Selection criteria

The selection criteria for Fellowships are:

- Investigator (60%)
 - excellence of track record of the applicant
- Project/Program of research activity (20%)
 - *significance and innovation*
 - does the research address an important problem?
 - how will the anticipated outcomes advance the knowledge base?
 - are the project aims and concepts novel and innovative?
 - will new methods 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 (20%)
 - what is the potential of the research project to result in economic, environmental 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?
 - how does the research programme enhance innovation in Australia?
 - is the project/program likely to expand Australia's knowledge base and research capability?
 - does the project/program build and sustain world-class research teams and linkages?

Institutional support

The strength of institutional commitment will be a determining factor in the granting of Federation Fellowships. A statement detailing the support that the institution will be providing is necessary (Refer to section 4.1 and Part E of application form).

Designated Priority Areas of Research

A preference may be exercised in favour of applications lying in the Designated Priority Areas of Research.

7.2 Selection procedure

Assessment of applications will be undertaken by the ARC's Federation Fellowships Committee which may:

- assign independent readers/assessors to review the applications;
- rank each application relative to the others on the basis of the application;
- assess and recommend applicants for funding;
- 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 Committee members to withdraw from considering particular applications.

7.2.1 Assessment

7.2.1.1 Exclusion

Exclusion of ineligible applications by the Committee may take place at any time during the selection process. Applications which contravene the guidelines in any way will be excluded, for instance:

- failing to submit the application through the appropriate Research Office/Chief Executive Officer for certification;
- not meeting the eligibility criteria;
- providing incomplete or misleading information;
- designating the application as ‘Commercial-in-Confidence’.

7.2.1.2 Recommendations

The Committee may rank the applications. The Committee may make final checks on eligibility. A list of Fellowships recommended for funding will then be prepared and submitted to the ARC Board for endorsement.

7.2.1.3 Ministerial approval

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

7.3 Offer of Fellowship

Following the Minister’s approval, the ARC will inform the successful administering institution in a letter of offer that will indicate any special conditions that may apply such as temporary overseas residency.

A Fellowship may not begin, nor funds be expended, until the administering institution and each collaborating institution have entered into a written agreement. The agreement must cover the role of the institutions in the project including:

- contributions by the institutions;
- payment of salaries for Federation Fellows;
- intellectual property arrangements; and
- an undertaking by the institutions to abide by the Funding Contract.

7.4 Funding Contract

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

The grantee must accept the Funding Contract and the administering institution must sign the Funding Contract before grant payments can be made.

7.4.1 Commencement of Fellowships

Fellowships must commence by 31 August 2003. Failure to do so will result in termination of funding.

8 Appeals process

Appeals will be considered only on 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 or equivalent 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

9 Grant administration

9.1 Reporting requirements

Institutions are required to submit these documents to the ARC—

- *Exceptions Report* on awards that have financial exceptions, by 1 November in the calendar year for which they were granted
- *End-of-year Report* on the expenditure of Fellowship 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 Fellowship
- *Audited Financial Statement* by 30 June of each year following the calendar year of the Fellowship, 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.

9.1.1 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 award, 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 Federation Fellowships for the current year or initiate recovery of grant money.

9.2 Financial management — payments

The Federation Fellowships scheme 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 Federation Fellowships, otherwise they must be returned through the usual payments system.

9.3 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.

9.4 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.

9.5 Intellectual property

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

9.6 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. Any offences committed under Commonwealth criminal law attract substantial penalties, including fines and gaol sentences.

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).

9.7 Contact points

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

Enquiries about Federation Fellowships may be addressed to:

Co-ordinator
Federation Fellowships
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

Federation Fellowships cycle 2003

Month	Year	Event
25 October	2002	Closing date for applications NOTE Each institution may set its own closing date. Please consult with the institution's research office.
November/ December/ January	2002-03	Assessment of applications by the Committee.
March/ April	2003	Recommendations to the Minister for approval, announcement of successful Federation Fellowships and advice to applicants
28 days following date of advice to applicants	2003	Closing date for appeals
4-6 weeks after closing date for appeals	2003	Appeals are considered and applicants advised

APPENDIX 1

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.

Genome-Phenome Research

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/Intelligent 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.