



Academic Board Agenda

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Enclosure for the agenda

for the meeting of the Academic Board on 14 March 2001

Item 11. Report of the Research Committee

11.2	Report of the Research Committee meeting held on 6 February 2001	<i>Pages</i>
11.2.2	Code of Conduct for Responsible Research Practice and Guidelines for Dealing with Allegations of Research Misconduct	
	Code of Conduct for Responsible Research Practice	3-6
	Guidelines for Dealing with Allegations of Research Misconduct	7-11
11.2.3	Proceedings of the Committee	
(5)	Report on Internal Funding Schemes Internal R&D support, 2000-2001	12-14
(6)	The Innovation Statement Summary of changes	15
	Briefing paper	16-18



The University of Sydney

CODE OF CONDUCT FOR RESPONSIBLE RESEARCH PRACTICE

and

GUIDELINES FOR DEALING WITH ALLEGATIONS OF RESEARCH MISCONDUCT

TABLE OF CONTENTS

CODE OF CONDUCT FOR RESPONSIBLE RESEARCH PRACTICE	3
Preliminary	3
1. Definitions	3
2. Aim	3
CODE OF CONDUCT FOR RESPONSIBLE RESEARCH PRACTICE	3
1. Introduction	3
2. General ethical considerations	3
3. Retention of data	4
4. Publication and authorship	4
5. The role of research supervisors.....	5
6. The Role of the Department/School	6
7. Disclosure of conflict of interest	6
8. Disputes.....	6
9. Allegations of Research Misconduct.....	6
GUIDELINES FOR DEALING WITH ALLEGATIONS OF RESEARCH MISCONDUCT.....	7
1. Introduction	7
2. Definition of Research Misconduct.....	7
3. Protection of interested parties.....	8
4. The Receipt of Allegations	8
5. The Initial Investigation	9
6. Action on completion of the Initial Investigation.....	9
7. Where the decision is that the allegation is serious and warrants further investigation.....	9
8. Special requirements.....	10
9. Action following the completion of the further investigation process.....	10
10. Action if the accused resigns	11

THE UNIVERSITY OF SYDNEY CODE OF CONDUCT FOR RESPONSIBLE RESEARCH PRACTICE

Preliminary

1. Definitions

In this document:

Researcher means all staff members and students carrying out research under the imprimatur of the University.

2. Aim

This document establishes a framework of responsible research practice and conduct.

The Code of Conduct for Responsible Research Practice and the Guidelines for Dealing with Allegations of Research Misconduct are available on the home page of the Research and Scholarships Office on the WWW (<http://www.usyd.edu.au/su/reschols/>).

CODE OF CONDUCT FOR RESPONSIBLE RESEARCH PRACTICE

1. Introduction

The University of Sydney holds Researchers responsible for scholarly and scientific rigour and integrity, in obtaining, recording and analysing data and in presenting, reporting and publishing results.

Rigour and integrity are indicated by:

- (1) giving appropriate recognition to those who have made an intellectual contribution to the contents of a publication;
- (2) obtaining the permission of the author before using new information, concepts or data originally obtained through access to confidential data;
- (3) conforming to University requirements for working with humans, animals, and bio hazards;
- (4) using research funds in accordance with the terms and conditions under which those funds were received;
- (5) disclosing to the University any conflict of interest (financial, personal or other) that might influence their research.

2. General ethical considerations

- (1) An institution conducting scholarly, creative and scientific activity must ensure that it fulfils a collective responsibility of commitment to high standards of professional conduct. Researchers also have an individual duty to ensure that their work enhances the good name of the institution and the discipline to which they belong.
- (2) Researchers should only participate in work that conforms to accepted ethical and discipline standards and that they are competent to perform. When in doubt Researchers should seek assistance from their designated academic supervisor(s).
- (3) Institutions and Researchers have a responsibility to ensure the safety of all those associated with research. It is also essential that the design of projects take account of any ethical guidelines specific to a discipline area and the published University ethics guidelines and procedures.

- (4) If data of a confidential nature are obtained, for example, from individual patient records or questionnaires, confidentiality must be observed and Researchers must not use such information for their own personal advantage or that of a third party. In particular, Researchers must observe the University's legislative responsibilities and policies relating to privacy of personal information used in research. It is the obligation of the Researcher to enquire whether confidentiality applies and of the principal researcher to inform team or co-researchers of their obligations with respect to any such confidentiality requirements.
- (5) Research results and methods should be open to scrutiny by colleagues within the institution and, through appropriate publication, by peer review. Where confidentiality provisions apply, data must be kept in a way that reference to them by third parties can occur without breaching confidentiality.
- (6) Secrecy may be necessary for a limited period in the case of contract research. Confidentiality provisions in research contracts or separate confidentiality agreements may be entered into by the University, the Researcher and the client or sponsor of research. Where such agreements limit publication and discussion, limitations and restrictions must be explicitly stated in the agreement. All Researchers should ensure that they are familiar with and comply at all times with the confidentiality obligations in research contracts.

3. Retention of data

- (1) Sound research procedures entail the discussion of data and research methods with colleagues. Discussion may also occur after the research is complete, often because of interest following publication. It is in the interests of all Researchers to ensure that research data are safely held in the University for a minimum period of five years. For some types of data, for example, clinical data, a longer period is appropriate. Researchers are also required to comply with the University's legislative responsibilities and policies with respect to record keeping.
- (2) Data must be recorded in a durable and appropriately referenced form. Each department or research unit must establish procedures appropriate to their needs for the retention of data and for the keeping of records of data held. Data must be kept in a way that reference to them by third parties can occur, except where confidentiality applies.
- (3) A copy of the original data should be retained in the department or research unit in which they were generated. Data obtained from limited access databases or in a contracted project may not be able to be retained. In such cases, a written indication of the location of the original data or key information regarding the limited-access database from which it was extracted must be kept in the department or research unit. Individual Researchers are able to hold copies of the data for their own use. Nevertheless, it should be understood that retention solely by the individual Researcher provides little protection to the Researcher or the institution in the event of an allegation of falsification of data. Researchers who leave the University within a period of five years of the collection of the data should ensure that the department or research unit where the data were generated retains a copy of the data.

4. Publication and authorship

- (1) Where there is more than one author of a publication, one author (by agreement among the authors) should formally accept overall responsibility for the entire publication. Such formal acceptance must be in writing and kept on file in the department or research unit of that author, together with the names of all other authors.
- (2) The minimum requirement for authorship of a publication is substantial participation in conceiving, executing or interpreting at least part of the research reported.

"Honorary authorship" is unacceptable. Authorship means that a person is listed as an author of a publication only when they have participated in a substantial way in the conception, execution or interpretation of at least part of the work described in the publication.

- (3) Due recognition of all research participants is a part of a proper research process. Authors should ensure that the work of research students/trainees, research assistants, technical officers and other staff is properly acknowledged.
- (4) The named authors of the publication must read the final paper and sign a statement indicating that each of them has met the minimum requirements for authorship and who is the author taking overall responsibility for the publication. Such a statement must include an indication that there are no other "authors" of the publication, according to the definition under (ii). If, for any reason, one or more co-authors are unable to sign the statement, the Head of the research unit or department may sign on their behalf, noting the reason for their unavailability. This statement should accompany the work to the publishers and a copy should be retained in the department or unit.
- (5) Publication of multiple papers based on the same set(s) or sub-set(s) of data is improper unless there is full cross-referencing (for example, by reference to a preliminary publication at the time of publication of the complete work, which grew from it). Simultaneous submission to more than one journal or publisher of material based on the same set(s) or sub-set(s) of data should be disclosed at the time of submission.

5. The role of research supervisors

- (1) Supervision of each research student/trainee (including honours, masters and doctoral students and postdoctoral fellows) should be assigned to a specific, responsible and appropriately qualified Researcher.
- (2) The ratio of research students/trainees to supervisors should be small enough to ensure effective interaction, as well as effective supervision of the research at all stages.
- (3) Research supervisors should advise each research student/trainee of applicable government and institutional guidelines for the conduct of research, including those covering ethical requirements for studies on human or animal subjects, and requirements for the use of potentially hazardous agents.
- (4) Research supervisors should be the primary source of guidance to research students/trainees in all matters of sound research practice.
- (5) As far as possible, research supervisors should ensure that the work submitted by research students/trainees is their own and that, where there are data, the data are valid.
- (6) Where possible, the Head of a Department or research unit should be personally involved in active research supervision and observe the research activities of those for whom he or she is responsible. Professional relationships should be encouraged at all times. In particular, there should be wide discussion of the work of all individuals by their peers.
- (7) Research conditions for all involved in a research team/project, and reference to relevant University policies, should be outlined in a letter from the principal investigator when team members are engaged.
- (8) Research supervisors should ensure that any Intellectual Property embodied in the research is protected appropriately according to the relevant University policies.

6. The Role of the Department/School

Insofar as Researchers carry out their research within Departments or Schools, departmental staff have a responsibility to adhere to the Code of Conduct for Responsible Research Practice and associated University policies. The Head of Department/School has a responsibility to put in place procedures to facilitate and monitor the issues raised in this document.

7. Disclosure of conflict of interest

- (1) Disclosure of any conflict or potential conflict of interest is essential for the responsible conduct of research.
- (2) Researchers are obliged to disclose to their academic supervisor, research team leader and co-researchers any affiliation with or financial involvement in any organisation or entity with a direct interest in the subject matter or in the provision of materials for the research. These would include benefits in-kind such as the provision of materials or facilities for the research and the support of individuals through the provision of benefits (for example, travel and accommodation expenses to attend conferences). Where a research student's scholarship or studentship is funded by a company which has an interest in the research results and the academic supervisor has an interest in the company, the academic supervisor must disclose that interest at the time of the award of the funds.
- (3) Researchers who are staff members must disclose to their academic supervisors actual or perceived conflict between their personal interests and relationships and their duties and responsibilities as research staff of the University.

8. Disputes

Team member disputes or grievances arising out of the conduct of any research should be referred to the principal researcher for resolution or to the academic supervisor where relevant. Grievances between staff members can be dealt with under the grievances procedures contained in the enterprise agreements.

9. Allegations of Research Misconduct

Allegations of misconduct that arise out of the conduct of research must be dealt with in accordance with the University's Policy on Dealing with Allegations of Research Misconduct.

GUIDELINES FOR DEALING WITH ALLEGATIONS OF RESEARCH MISCONDUCT

1. Introduction

The Code of Conduct for Responsible Research Practice aims to ensure a research environment that minimises the incidence of Research Misconduct. It is inevitable, however, that there will be some allegations of misconduct. It is therefore essential that the University have in place effective and efficient procedures for dealing with such allegations.

The University has policies for dealing with allegations of misconduct against academic and general staff as well as procedures for dealing with allegations made against students.

While these policies/procedures must be followed when dealing with allegations of Research Misconduct there are specific matters connected with research that must be taken into consideration.

The purpose of this document is to set out how these specific matters should be dealt with in conjunction with the implementation of the above policies and procedures.

2. Definition of Research Misconduct

- (1) The University considers Research Misconduct by a staff member to be misconduct (which includes serious misconduct) and a breach of its Code of Conduct. It is also considered to be misconduct on the part of a student as defined in Chapter 8 of the By-law 1999.
- (2) "Research Misconduct" means fabrication, falsification, plagiarism, or other practices that seriously deviate from those that are commonly accepted within the scientific and scholarly community for proposing, conducting, or reporting research. It includes the misleading ascription of authorship, including the listing of authors without their permission, attributing work to others who have not in fact contributed to the research, and the lack of appropriate acknowledgment of work primarily produced by a research student/trainee or associate. It does not include honest errors or honest differences in interpretation or judgements of data.
- (3) Examples of Research Misconduct include, but are not limited to, the following:
 - (a) *Misappropriation*: A researcher or reviewer shall not intentionally or recklessly:
 - (i) plagiarise, which is understood to mean the presentation of the documented words or ideas of another as his or her own, without attribution appropriate for the medium of presentation;
 - (ii) make use of any information in breach of any duty of confidentiality associated with the review of any manuscript or grant application;
 - (iii) intentionally omit reference to the relevant published work of others for the purpose of inferring personal discovery of new information.
 - (b) *Interference*: A researcher or reviewer shall not intentionally and without authorisation take or sequester or materially damage any research-related property of another, including without limitation the apparatus, reagents, biological materials, writings, data, hardware, software, or any other substance or device used or produced in the conduct of research.
 - (c) *Misrepresentation*: A researcher or reviewer shall not with intent to deceive, or in reckless disregard for the truth:
 - (i) state or present a material or significant falsehood; or
 - (ii) omit a fact so that what is stated or presented as a whole states or presents a material or significant falsehood.

3. Protection of interested parties

- (1) Allegations of Research Misconduct require careful handling. When an allegation is made, the protection of all interested parties is essential. Interested parties may include:
 - (a) the person bringing the allegation;
 - (b) the person against whom an allegation is made;
 - (c) research students/trainees and staff working with the person concerned;
 - (d) journals in which allegedly fraudulent papers have been or are about to be published;
 - (e) funding bodies that have contributed to the research; and
 - (f) in some cases the public - for example, if a drug is involved.
- (2) Adequate protection of the complainant and the accused demands absolute confidentiality and reasonable speed in the early stages of investigation. On the other hand, the protection of other parties may involve some disclosure. This is a matter for the Vice-Chancellor or his or her nominee to decide.

4. The Receipt of Allegations

- (1) Allegations of Research Misconduct may originate from within the University, from other institutions, in learned journals or in the press. Allegations from outside the University must be referred to the Vice-Chancellor in the first instance. The Vice-Chancellor will then determine if he or she will nominate a designated person to deal with the matter.
- (2)
 - (a) Where the allegation originates from within the University, the matter is to be referred to the Pro-Vice-Chancellor (Research) (PVCR) as the Vice-Chancellor's standing nominee for dealing with such complaints. *The University however, encourages its staff and research students/trainees to raise their concerns with their Head of Departments, Supervisor or Chair of the relevant Faculty Research Committee in the first instance.*
 - (b) A reference to the PVCR in this document includes any nominee appointed by the Vice-Chancellor to deal with allegations of Research Misconduct from outside the University.
- (3) **Advisers on Integrity in Research**
Chairs of Faculty Research Committees will act as advisers on integrity in research and should be familiar with the literature and guidelines on Research Misconduct. The literature available includes the Joint NHMRC/AV-CC Statement and Guidelines on Research Practice as well as the University's own Code of Conduct for Responsible Research Practice. The task of a Chair is to give confidential advice to staff and students/trainees about what constitutes Research Misconduct, the rights and responsibilities of a potential complainant, the rights of the person complained about and the procedures for dealing with allegations of Research Misconduct within the University.
- (4) **Designated Person to Receive Internal Complaints**
Persons intending to make an allegation should consider having a confidential meeting with the PVCR to determine if lodging a formal allegation is appropriate. It may be that there are other ways of dealing with the perceived difficulty.
- (5) **Lodging a Complaint**
Allegations are to be made, preferably in writing, to the PVCR in the first instance. The PVCR will inform the Vice-Chancellor immediately on receipt of the allegation and will keep the Vice-Chancellor informed as the investigation progresses.

5. The Initial Investigation

- (1) The purpose of the initial investigation is to determine how to proceed with the allegation.
- (2) To the maximum extent possible, all affected persons will be treated with confidentiality. If necessary the PVCR will take appropriate interim administrative action to protect funds provided by external funding bodies.
- (3) If the allegation is against a member of the Academic Staff, the PVCR must follow the procedures set out in the policy “Misconduct Procedures: Academic Staff”.
- (4) If the allegations is against a member of the General Staff, the PVCR must follow the procedures set out in the policy “Misconduct Procedures: General Staff”.
- (5) If after consideration (and where necessary, informal investigation) of an allegation against a student the PVCR is of the view the matter warrants further investigation he or she shall inform the Registrar of the alleged misconduct in accordance with clause (62)(1) of Chapter 8 (Student Discipline) of the University of Sydney By-law 1999. Alternately the PVCR may determine that there is no substance to the allegation, refer the matter back to the student’s supervisor for appropriate counselling or such other action the PVCR deems appropriate. Consideration or initial investigation of the complaint may include interviewing the student.
- (6) The initial inquiry must be conducted expeditiously and where the PVCR considers it necessary he or she has the power to secure appropriate expertise from within or outside the University to assist with the informal inquiries, taking precautions to ensure no real or perceived conflict of interest exists.

6. Action on completion of the Initial Investigation

- (1) Action on completion of the initial investigation into allegations against a staff member shall proceed in accordance with the relevant policy.
- (2) Where the PVCR has determined that the allegation against a student warrants further investigation then the matter must be referred to the Registrar.
- (3) The Vice-Chancellor (on advice from the PVCR) shall judge whether there are individuals or organisations that need to be informed at this point. This may depend on the degree of confidentiality that has been achieved. Appropriate action may be needed to protect or restore the reputation of persons alleged to have engaged in Research Misconduct when allegations are not confirmed. Appropriate action may be needed to protect from victimisation those persons who, in good faith, have made allegations of Research Misconduct.

7. Where the decision is that the allegation is serious and warrants further investigation

- (1) An investigator, appointed to conduct further investigations into an allegation, shall have the power to secure necessary and appropriate expertise from within or outside the University to assist with the investigation. The investigator shall take precautions to ensure no real or perceived conflict of interest exists.
- (2) If the staff member is in receipt of a grant from an external funding body, the Vice-Chancellor will advise the Secretary of that funding body, in confidence, that a case is being formally investigated. The Vice-Chancellor and his or her nominees will take appropriate interim administrative actions to protect funds granted by external funding bodies.
- (3) Again, at this point, appropriate action may be needed to protect or restore the reputation of persons alleged to have engaged in Research Misconduct when allegations are not confirmed. Appropriate action may be needed to protect from

victimisation those persons who, in good faith, have made allegations of Research Misconduct.

8. Special requirements

(1) There are other matters which shall be considered by the Vice-Chancellor and his or her nominees at all times in dealing with any initial inquiry or further investigation into Research Misconduct.

(a) Where United States Federal Funds are involved, the provisions of the Public Health Service Regulation 42 CFR Part 50, Subpart A shall apply. The Vice-Chancellor shall promptly notify the United States Office of Research Integrity:

- (i) if there is an immediate health hazard involved;
- (ii) if there is a need to protect current or potential US Federal funds or equipment or to protect individuals affected by the inquiry;
- (iii) of any developments during the course of an investigation which disclose facts that may affect current or potential US Federal Funding for individual(s) under investigation, or that the US Public Health Service needs to know to ensure appropriate use of Federal Funds and otherwise protect the public interest;
- (iv) if there is the likelihood that the matter will be reported publicly;
- (v) if there is a reasonable indication that a criminal violation has occurred, in which case notification will occur within 24 hours;
- (vi) if, for any reason, an inquiry will be terminated before completion of all requirements of the above regulation.

Within 120 days of initiating a further investigation, a Final Report shall be submitted to the Director, Office of Research Integrity. If an investigation cannot be completed in this time, a request for extension shall be forwarded to the Office of Research Integrity, detailing the reasons for delay, progress to date, and an estimated date of completion.

- (b) There may in some circumstances be a reason to inform the publishers of a journal that the authenticity of a paper or papers is in doubt. A false paper may be dangerous to the community.
- (c) If allegations are made which appear to cast doubt on the validity of one or more research publications produced by a staff member, it may be necessary to investigate the person's past research as well as that covered by the allegations.
- (d) If the claim of research misconduct has been substantiated, it is important that the position of research students/trainees and staff working with the accused be clarified. In some cases, if there has been Research Misconduct, it may be necessary to provide compensation to innocent people who have been affected.

9. Action following the completion of the further investigation process

- (1) If the staff member is found to have committed Research Misconduct then, the University will take disciplinary action, having regard to the provisions of the relevant policies and enterprise agreements.
- (2) Relevant publishers and sponsoring agencies shall be notified.
- (3) If the allegations are unfounded, action may be needed to redress any damage resulting from the allegation. If an external funding body was advised during the course of investigations that a preliminary determination had been made that the allegation was serious and warranted further investigation, and the staff member has been exonerated, then the external funding body must be advised accordingly.

10. Action if the accused resigns

- (1) If a staff member, against whom allegations of Research Misconduct have been made, resigns then procedures should cease immediately. The University of Sydney has no jurisdiction to take any action against a former staff member.
- (2) It is not necessarily satisfactory for an enquiry into Research Misconduct to be abandoned if a resignation is received. Almost always others will have been affected or will be affected, perhaps very seriously, unless the facts are determined. In such an event, the Vice-Chancellor or his or her nominee may convene an enquiry to report on the status of the research and on any remedial action needed to protect affected people, bodies and the public.

Internal R&D support, 2000-2001

As members know, the Government White Paper on research and research training (*Knowledge and Innovation*) was the occasion for a reorganisation of internal funding schemes for the support of research. Essentially, the University committed \$150 million over 10 years to support research and research training through a variety of schemes that include major equipment, support for R&D, support for postgraduate research students major centres and research computing.

One of the key elements of the new scheme is greater flexibility. The total funds available for R&D support (excluding support for postgraduate research students, postdoctoral fellows, centres, advanced computing) were divided among the three Colleges. Colleges could then decide, in consultation with the Pro-Vice-Chancellor (Research), on the balance between project support and equipment. Because part of the 2001 funds for R&D support came from the ARC Small Grants Scheme, funds were allocated to Colleges in part according to ARC Large Grant income and in part according to the new Institutional Grants Scheme formula. Only the Institutional Grants Scheme formula will be used in future years.

The totals designated by the Colleges for equipment and research support were as follows:

	Equipment	Research
Health Sciences	\$775,000	\$974,500
Humanities and Social Sciences	\$300,000	\$816,520
Sciences & Technology	\$1,500,000	\$1,599,000
Total	\$2,575,000	\$3,390,020

Within the support for research, \$648,000 was devoted to those who were unsuccessful in the ARC and NHMRC schemes by only a small margin (the Near Miss scheme), \$789,500 was devoted to staff new to the University within the last three years (New Staff scheme) and \$1,952,520 was devoted to project support (Sesqui R&D scheme).

Major Equipment

The committee assembled to assess applications was chaired by me and consisted of two members nominated by each College Pro-Vice-Chancellor in consultation with me, together with Ms Merrilee Robb. The full committee was:

David Siddle (Chair)	Nick Hunt
Merrilee Robb	Carol Armour
Peter Lay	Bob Kummerfeld
Graeme Gill	Greg Hancock
Dan Potts	

Rather than rank each application, Faculties were asked to indicate whether the requested equipment was of high, medium or low priority. In the event, some Faculties followed this procedure and others continued to rank. More importantly, College Pro-Vice-Chancellors were asked to provide evaluative comment on the applications in terms of strategic needs. This worked very well in that the comments were extremely useful.

I have attached a spreadsheet of successful applications, indicating the allocation to each request. As in previous years, half of the equipment costs had to be met from other sources (Faculty, School or grants). As you can see, I have committed just over \$2.5M of central funds.

In general, the system worked well. Although not all requests could be met, all of the strategically important requests have been supported. It was quite noticeable that most of the requests were from groups of researchers and that there was an emphasis on producing benefit to as many researchers as possible.

Any balances from major equipment were utilised in the Sesqui and New Staff R&D schemes.

R&D support

Within the Sesqui R&D scheme, 18 staff who narrowly missed out on an ARC Large Grant or an NHMRC grant were supported. Average grant size was \$21,500 in CHASS (6 grants), \$42,000 in Health Sciences (7 grants) and \$45,000 in Sciences and Technology (5 grants). Details of the New Staff Scheme are shown below:

New Staff Scheme

College	# grants	Success rate	Average grant
CHS	11	61%	25,000
CHASS	16	50%	9,969
CST	19	42%	18,684
Total	46	48%	17,163

Comparable data for the Sesqui R&D scheme are as follows:

Sesqui R&D scheme

College	# grants	Success rate	Average grant
CHS	10	21%	40,550
CHASS	46	55%	11,480
CST	38	28%	26,815
Total	94	35%	20,770

Because the funds for the Sesqui R&D support scheme came from the ARC Small Grant scheme, we did not support research in clinical medicine or dentistry. This will change in 2001 when all research will be eligible for support. Medical and dental research was, of course, supported in the New Staff and Near Miss schemes.

Postdoctoral Fellowships

The University recruited 12 Postdoctoral Fellows to commence in 2001. There were 207 applications, 76 of which could be said to have an affiliation with the University of Sydney. Of the 131 applications from outside, 73 were from overseas applicants.

Faculties were asked to rank a subset of the applications. The number to be ranked by each Faculty was related to the research performance (income, publications and research higher degree completions) of that Faculty.

A committee that contained two representatives from each College considered the 37 ranked applications. They were decided on after consultation between the relevant Pro-Vice-Chancellor and myself. The full committee consisted of:

David Siddle (Chair)
Merrilee Robb
Margaret Harris
Bob Connell
Norm Dancer
Jim Petrie
Gary Halliday
David Cook

Applicants were assessed both on their merit and in terms of the strength of the research environment in which they plan to work. The very strong and the relatively weak candidates were easy to identify and most discussion revolved around those who were finally ranked 8-12 and on the reserve list. A final list of 12 successful applicants and a reserve list of 4 were determined.

Three of the short-listed applicants were offered externally funded fellowships. In order to make the external fellowship attractive, these applicants have been offered the same start-up funds as U2000 Fellows (the start-up funding provided by the University scheme is slightly more generous than that offered by the ARC).

I have attached a listing of the successful applicants. In terms of the original offers, 4 fellowships went to Science, 3 to Medicine, 2 each to Engineering and Arts and one to Education. The final list contains 3 from Science, 2 from each of Engineering and Medicine, 2 from Arts and one from each from Economics and Business, Education and Law. Of the 16 applicants on the original primary and reserve lists, 11 were from outside the University and of those 5 were from overseas.

Innovation Statement: Backing Australia's Ability

Executive Summary

The initiatives outlined in this strategy are the latest in a series of measures introduced by the Government to promote research, development and innovation.

To this end *Backing Australia's Ability* provides a comprehensive and integrated package representing an additional Government investment of \$2.9 billion over five years. It will fund major initiatives to stimulate innovation, including:

- providing an additional \$736 million for Australian Research Council competitive grants, doubling funding by 2005-06;
- boosting research infrastructure funding by \$583 million;
- committing an additional \$176 million for world class centres of excellence in the key enabling technologies of Information and Communications Technologies (ICT) and biotechnology;
- providing \$155 million to support investments in major national research facilities;
- continuing the R&D Start Program with funding of \$535 million over five years;
- reforming the R&D tax concession including the provision of a premium rate of 175 per cent for additional R&D activity, and a tax rebate for small companies;
- expanding the Cooperative Research Centres Program with an additional \$227 million and encouraging greater access by small and medium enterprises;
- increasing funding to universities by \$151 million to create 2000 additional university places each year, with priority given to ICT, mathematics and science - to be backed by adjustments to existing immigration arrangements to attract more migrants with ICT skills; and
- delivering \$130 million to foster scientific, mathematical and technological skills and innovation in government schools in those States where the Enrolment Benchmark Adjustment (EBA) is triggered.

It is estimated that the Government's investment of \$2.9 billion will underpin business and research organisation expenditure of approximately \$6 billion.

Innovation Statement: Backing Australia's Ability

The Statement delivered by the Prime Minister on 29 January outlined total expenditure of \$2.9 billion over 5 years in a variety of mechanisms to promote research and development, encourage innovation and accelerate the commercial application of ideas.

Australian Research Council

There will be a doubling of funds to the Australian Research Council over 5 years. Total additional expenditure is \$736.4M. The first increase (\$19.2M) will occur in fiscal year 2001-2002 and will affect the application for funds to commence in 2002.

Comment: No details are yet known about how the additional funds will be deployed. Some will certainly be used to support project grants leading to a higher success rate and better funding levels. Some funds will be used to support program grants over 5 years and centres of excellence.

Research Infrastructure Block Grant

Research Infrastructure Block Grants will increase by \$337M over 5 years. The first increase of \$26.8M will affect allocations in 2002. The aim is to maintain RIBG at 20 cents in the \$ of National Competitive Grants. RIBG is allocated to eligible institutions on the basis of national competitive grant funding averaged over the past two years. The University of Sydney's RIBG in 2001 is \$9.4M.

Comment: An internationally competitive rate is close to 40 cents per \$. However, the Government will introduce an additional measure to support university infrastructure.

University infrastructure

A new scheme will be introduced to provide \$246M over 5 years for university infrastructure. Eligible infrastructure will include libraries, computing centres, experimental farms and will include salaries for essential support staff. The total available in the first year of the scheme will be \$26.3M.

Comment: The scheme will most likely require collaboration between two or more institutions. In this sense, it seems similar to the current Research Infrastructure, Equipment and Facilities Program run by the ARC. However, it is not yet clear whether the new scheme will be run through the ARC or through DETYA. Guidelines will be released before the end of 2001. My take on this is that the scheme is designed to fund items that are more expensive than those currently funded by RIEF, i.e., in the range \$2-5M. This was a need that we highlighted in the 2000 Profiles visit.

Centres of excellence

Two centres – one in Information and Communications Technology and one in Biotechnology will be established. Although both centres will be engaged in R&D, they will also commercialise new products. It is expected that industry will contribute around 25% of centre funds. The Biotechnology centre will be selected through the Commonwealth Biotechnology Ministerial Council on advice from a panel of experts and from the ARC. The operator of the ICT centre will be chosen by the Minister for Communications, Information Technology and the Arts and the Minister for Education, Training and Youth Affairs on the advice of an expert panel.

Comment: The Centres of Excellence are intended to complement ARC Centres of Excellence and Cooperative Research Centres. They are expected to have a strong international focus. The ARC will be required to contribute \$85M during years 2-5 for the new centres. Thus, \$85M of the additional \$736M to be received by the ARC is committed to the new centres.

Major National Research Facilities

\$155M will be allocated for major national research facilities. The program is intended for expensive equipment or laboratory facilities. The previous MNRFP Program supported items such as the National Telescope Facility and the Australian Genome Research Facility.

Comment: The Commonwealth will provide 50% of total project costs with the balance coming from other sources including State Governments. Guidelines will be available in late February. The timelines on this scheme are tight. The available funding will, I suspect, support 3 or 4 major facilities.

R&D Start

The Start program will receive additional funding of \$535M over 5 years. It will continue to focus on small to medium sized enterprises (turnover < \$50 M per annum).

Comment: The program has a guaranteed life to 2006. Procedures are to be streamlined to permit application at any time and shorter decision times.

Cooperative Research Centres

The CRC program will receive additional funding of \$227M over 5 years. The first tranche of \$55M will be available in fiscal year 2003-2004. This should coincide with the next selection round for CRCs.

Commercialising Emerging Technologies (COMET)

The COMET program will receive an additional \$40M over 5 years. The COMET program began in 1999 as a 3-year, \$30M program. Its major service is through the Tailored Assistance for Commercialisation Scheme that provides up to \$100,000 to individuals and small businesses to help overcome impediments in getting innovative new products to market. The University has already benefited from two COMET grants, with a further two going to two of our start-up companies (IRM Technology and TA_Med).

Pre-Seed Fund

The Government will provide \$78.7M over 5 years for early stage investment in research outcomes from universities and public sector research agencies. The funds will be managed by private sector fund managers.

Comment: This is a very important development. However, the PVC (R) and the Director of the Business Liaison Office have not been able to obtain any details about how the scheme will operate. There will be consultation with stakeholders in early 2001. One possibility is that the scheme will require universities to source matching funds from other venture funds.

Biotechnology Innovation Fund

This is a relatively modest initiative (\$20M) and might provide more support for companies than for universities. Full details are not yet available. Nevertheless, we would hope to take advantage of the scheme

Intellectual Property

There will be a number of reforms to the IP system. There will be some amendments to the Patents Acts 1990 to align the criteria for patentability more closely with international practice. There will also be a number of IP awareness initiatives.

Comment: The Statement indicates that universities will be required to provide their IP policies and commercialisation strategies as part of the Research and Research Training Management Reports. This has not previously been indicated. The University's Intellectual Property Rule is in the final stages of revision. The proposal for a 12 month grace period would be a huge benefit to Universities in that we would be able to publish before patenting, as is the case in the USA.

Additional places

\$151M will be devoted to the creation of an additional 2000 places. The places will be targeted to Information and Communication Technology, Mathematics and Science. Places will be allocated on a

competitive basis with key criteria being innovative approaches to teaching and learning that are designed to meet the needs of industry. The first tranche of places will be allocated in 2001 for commencement in 2002.

Postgraduate Education Loans Scheme

The Government will introduce income-contingent loans for postgraduate students undertaking non-research courses. The loans will be GST-free and interest-free, although debts older than 12 months will be indexed by the CPI. Deferred payment arrangements will be made. Eligible students will be able to borrow up to the limit of the tuition fee being charged by the university. The scheme will operate in a similar way to HECS in that students will sign an agreement so that the Commonwealth will pay the tuition fee of their behalf.

Comment: Continuing and commencing students in 2002 will be eligible. Although it is anticipated that some \$995M will be provided in loans, the fiscal impact on Government is anticipated to be positive (\$36.6M) because of the indexation of debts. At one level, the scheme is a recognition that postgraduate coursework enrolments have fallen by around 6% since the introduction of fees. At another level, it could serve as a pilot scheme for a similar scheme to operate at the undergraduate level.

Taxation issues

A number of taxation measures will be introduced to encourage investment in R&D. These include a Premium R&D Tax concession of 175%, streamlining the R&D tax concession and rebates for small companies.

Comment: Streamlining the R&D tax concession scheme is expected to save the Government \$345M over 5 years. On the positive side, companies will now be able to pro-rate over a year the 125% R&D plant depreciation. This means that R&D plant will no longer have to be used exclusively for R&D in order to attract the 125% concession. On the other hand, all claims for tax concession must meet the two criteria of “innovation” and “high technical risk”. Previously, only one criterion had to be met. In addition, the list of excluded activities that applied only to “core R&D activities” will be extended to cover “supporting activities” such as market research, market testing, tooling up and trial runs.

The 175% concession is expected to cost \$460M over 5 years. It will be based on a company’s R&D intensity defined as the ratio of R&D expenditure to turnover averaged over the previous three years. The premium rate of concession will apply to that component of R&D expenditure that exceeds R&D intensity during the past three years. Companies will be able to claim for the 175% concession for expenditure made after 30 June 2001. Some obvious questions are: Will a start-up company have to undertake R&D for 3 years before qualifying for the premium rate? How will an organisation’s previous R&D intensity be measured if the company has not made a claim under the existing regime?

The tax rebates for small companies is a positive move. Companies with turnovers of less than \$5M per annum and who spend up to \$1M per year on R&D will be eligible to receive a rebate equivalent to the value of the R&D Tax concession. Claims will be possible for expenditure made after 30 June 2001.

Overall comment

In general the Innovation Statement is to be welcomed. Arguably, it is too little, almost too late. On the other hand, without the initiatives announced on 29 January, Australian R&D would have remained in a parlous state by international standards. It is acknowledgement that there has been a decline in both public and business investment in R&D and perhaps more importantly, a tacit acknowledgement that Government has a role to play in stimulating R&D.

There is no doubt that the results of the scheme will be closely monitored to measure whether they have produced more innovation as indexed by a variety of measures.