

# Research Training and Research Workforce Issues in Australian Universities

NTEU UQ Branch Submission  
to the House Standing Committee on Industry, Science and Innovation.

This submission has been prepared by a group of research-only, academic teaching and research staff members and post-graduate students at The University of Queensland.

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The NTEU UQ Branch welcomes the opportunity to have input into this inquiry. Our submission is drawn from the observations and direct experiences of members. Individually, it is often difficult to determine how much of our situation is due to systemic issues, and how much due to specific constraints on our department, discipline or personal circumstance. However, collectively the scale and consistency of declining circumstances portrays a **system in crisis**.

We have reported issues under the broad categories of Funding, Teaching and Research Training, and Research Careers. While the issues are many and multifaceted, they are primarily **symptoms of chronic underfunding**. Thus our primary recommendation is for a substantial increase in funding to the sector. Specific recommendations are aimed at the allocation of funding, to allow greater flexibility in the recognition of, and reward for achievement. We also recommend a change in the structure of research higher degrees.

Further, we recommend a review of the ideological paradigm which was used to justify and target the withdrawal of public funding. The focus on 'productivity', and narrow definitions of 'products', have led to an **erosion of quality and sustainability**.

## Summary of Recommendations

- 1. Increase the overall amount of funding to the tertiary sector**, bringing Australia in line with other OECD countries. As a percentage of GDP, a **minimum increase of 30%** is required to reach comparability with the UK, while a 48% increase would bring us to the OECD average.
- 2. The full amount of this increase should be applied across the board** to
  - HECS allowances,
  - APA scholarships,
  - Student load and program completion funding to institutions,
  - Research output funding to institutions, and
  - Publicly funded research funding bodies such as the ARC and NHMRCThe funding increase should not be directed primarily at increasing the number of enrollments, programs or research grants. It must be seen as a correction in the underfunding of the current level of activity. However, growth in student numbers and research output are likely to result without being mandated.

3. In addition to a 30% increase in stipend,
  - **all scholarships and awards should be exempt from assessable income** for taxation and income support purposes (including, importantly, part time awards);
  - **APA duration should be extended to four years** (full time equivalent) to match the term of candidature;
  - **Greater flexibility should be allowed for recipients to go part time.**
  
4. **Teaching loads should be reduced**, with the aim to reach comparability with OECD countries. In defining loads, there should also be more **flexibility in the teaching and research mix**, allowing
  - opportunities, recognition and career path for teaching-only positions with an emphasis on program development and scholarship in tertiary education, and
  - continuing appointments for research-only staff, which may include postgraduate supervision and sessional lecturing.
  - More administrative support should be provided to academic staff so that they can do more ongoing training in research skills, and have more opportunity to share their skills with others.
  
5. **Introduction of course work as a formal part of postgraduate research degrees**,
  - including research skills training, and
  - relevant senior-level courses that the candidate may be identified as lacking in order to achieve broad and current expertise in their discipline.
  - The duration of candidature and scholarships should be increased to accommodate course work.
  - Implementation may be through a course-work Masters as a pre-requisite for PhD, or through provisional enrollment of PhD prior to course work completion.
  
6. **Review and reform of the ARC and NHMRC funding criteria**, allowing
  - full funding of research, including
    - o full salary with on-costs and superannuation at the institution's scale reflecting the seniority and achievement of the researcher, and capacity for funding adjustment to allow a justified promotion;
    - o full recovery of research costs, including infrastructure, research facilities and services, and the time contribution of tenured staff.
  - removal of eligibility restrictions on fellowships, particularly the number of years since PhD completion.
  - research of specifically Australian interest should not be rated against more global work on the basis of publication in international journals. A separate allocation should be made for this work.
  - acceptance of non-tenured researchers as chief investigators.
  - funding for the preparation of proposals.
  
7. **A review of the tertiary teaching system to identify shortfalls and opportunities in meeting future skills needs**, including possible changes in degree structures, and options for greater employer involvement.

# 1. Funding

## *a) Limited funds available*

Australia spends less on Research and Development than almost all other OECD countries<sup>1</sup>. In 2006, Government budget appropriations for R&D were just 0.54% of GDP, compared to 0.72% for the UK, 1.03% for the US, and 0.8% for the entire OECD.

Not only has Australia failed to keep pace with its international colleagues, it has substantially withdrawn public funding to the tertiary sector over the past decade, resulting in damaging downsizing of most teaching and research units.

This chronic underfunding is the critical driving force for the many symptoms of declining quality and viability that are described in this submission. Substantial restoration of funding is absolutely essential to achieve significant improvement in outcomes.

It is important that an increase in funding is seen as a correction for existing underfunded activities, not a means to expand the quantum of activity. A funding increase should be applied across the board, to student stipends, payments to institutions on per-student (FTSU) and research output basis, and to funding agencies to relax budgeting constraints on applications and allow full cost recovery for research activities.

## *b) Structural problems in sustaining research*

### *For research-only staff:*

Research only staff are generally funded from external competitive research grants. Very few staff have a permanent position not tied to specific research grants. As this funding is for fixed periods there are problems in the renewal of appointments and to obtain promotion, as no further funding is available, staff usually take a cut in hours. In most cases research only staff on fixed term appointments are ineligible to apply for funds to continue their appointment, or even extend a project to complete it. This can only be done through a permanent staff member, who often has very different priorities and may have been only marginal to the project. There is a pressing need for continuing appointments for research-only staff. There also needs to be recognition of researchers without continuing positions as legitimate protagonists of research proposals, and able to take the role of chief investigator.

### *For teaching-and-research staff:*

Teaching and research staff normally have salaries paid from teaching/general funds, but are expected to raise money to cover research needs. This funding is usually hard to obtain with ARC success rates around 20% and many staff feel there is a lot of effort wasted in preparing unsuccessful research grants. The competition for grants means usually it is necessary to have an internationally recognised track record to support the research application. This can only be obtained by initially undertaking a considerable amount of unfunded research, before a successful grant application can be prepared.

One senior member of staff observed:

*“What really hurts the research effort..... is the horrible task of actually completing the GAMS paperwork in exactly the correct fashion and on time, and going through the processes related to submission (review, reading, editing, upload). This literally*

*saps one's energy, time and motivation: so I use some of my school research funding to hire a grant writer to take care of this physical work and advise me on positioning, strategy and budget. Not all schools provide such support but ours does. The GAMS process feels like it is designed to winnow submissions, rather than achieve anything substantial."*

### *Rethinking the cultural cringe and national priorities of funding bodies*

Research content and agendas are skewed by the nature of the funding arrangements and the processes of globalisation. Funding bodies reinforce the importance of international recognition (despite the focus through the Australian Research Council on national priorities). In the logic of the research field, the international player is rewarded. Thus the Australian Research Council includes International and local assessors in its grant applications; international publications are deemed more valuable than those published locally. We have the anomaly of research centres focusing on international issues - such as Shakespeare and so on - being heavily funded, while Australian Studies Centres are being closed down. Membership of these research centres is usually by invitation only.

As no Australian publisher focuses on academic publishing, academic researchers working on specifically Australian topics (with few exceptions) have little international following and hence little opportunity for international commercial publication<sup>2</sup>. In-house peer reviewed publications through the universities do disseminate research findings to counter this problem, but do not, significantly, qualify as research publications and thus do not attract the crucial DEST points that translate into research dollars for the author's institution. This is a vital anomaly in funding arrangements and needs to be addressed immediately. In-house departmental non commercial publications needed to be tiered so that publicly funded research findings can be disseminated.

Returning the universities to one of their legitimate functions as the intellectual arm of the nation and the centre of bioregional research will require some major attitudinal shifts. It may involve increased affirmative action for research on Australian subjects, including increasing recognition of Australian publications and Australian assessors for grant applications.

### ***c) Postgraduate students facing financial difficulties***

The committee has had strong representation from members who find The APA Scholarship is completely inadequate.

Poverty and chronic financial stress are ubiquitous among PhD candidates. Even those who do gain an Australian Postgraduate Award scholarship have their income effectively capped below the Henderson poverty line<sup>3</sup>. Those fortunate enough to win an APA receive approximately \$375 per week, with additional paid employment to supplement this limited to 8 hours per week.

Excellent and able graduates are deterred from considering a research career at this point, given that in most fields the PhD is a key research qualification. The low level of income and funding support provided to PhD candidates means that those graduates without a significant independent source of income are often unable to consider a research career. It also contributes significantly to students not completing PhDs. Those able to survive on this income for three to four years while completing a PhD often do this at the expense of other life goals (children, home ownership, etc).

The PhD is a significant training gateway to a research career, and income support arrangements operate as a barrier preventing qualified people from choosing this path.

This is a significant limitation on the ability of the tertiary sector to compete with other sectors of the economy in attracting skilled graduates and experienced professionals to our workforce.

### **Recommendations:**

- 1. Increase the overall amount of funding in line with other OECD countries, with a minimum sector-wide increase of 30%.**
- 2. The full amount of this increase should be applied across the board to**
  - HECS allowances and APA scholarships,
  - Student load and program completion funding to institutions,
  - Research output funding to institutions, and
  - Publicly funded research funding bodies such as the ARC and NHMRC**The funding increase should not be directed primarily at increasing the number of enrollments, programs or research grants. It must be seen as a correction in the underfunding of the current level of activity. However, growth in student numbers and research output are likely to result without being mandated.**
- 3. A review of funding arrangements for research to both democratize the processes and allow for more creative and inclusive collaborations between university and community (eg. to include funding for CI salaries from both within and outside the universities; to remove restrictions on eligibility for fellowships, especially time since completion of Ph.D; to make research programs more accountable to the Australian research community (not through quantification of 'impact' in overseas journals); to allow those undertaking the research have more recognition in the decision making process; facilitate promotion and a career path for research only staff etc.)**
- 4. In addition to a 30% increase in stipend,**
  - all scholarships and awards should be exempt from assessable income for taxation and income support purposes (including, importantly, part time awards);
  - APA duration should be extended to four years (full time equivalent) to match the term of candidature;
  - Greater flexibility should be allowed for recipients to go part time.

[1] OECD in Figures 2007,  
[http://fiordiliji.sourceoecd.org/vl=2784488/cl=59/nw=1/rpsv/figures\\_2007/en/page17.htm](http://fiordiliji.sourceoecd.org/vl=2784488/cl=59/nw=1/rpsv/figures_2007/en/page17.htm)

[2] Robin Derricourt, Book Publishing and the University Sector in Australia. In: David Carter and Anne Galligan, Making Books, Contemporary Australian Publishing, UQP, 2007.

[3] CAPA media release "APAs to Break Poverty Line" 30 April 2008:  
<http://www.capa.edu.au/files/APAs-to-break-poverty-line.pdf>

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## 2. Teaching and research training:

### *a) The conflict between teaching loads and research*

Within Universities most permanent staff have appointments that expect a combination of teaching and research. These staff are responsible for most of the research training within Australian universities. Most research grants need a chief investigator that has a salary independent of the grant. This is due to the practicalities of preparing grant applications as well as restrictions placed by granting bodies on funding the salary of chief investigators. Research staff seldom have independent salaries that enable them to become chief investigators, and so it is usually left to the teaching staff to initiate grants and become the chief investigators.

The work load of teaching staff has been progressively increased at the expense of research output. This is reducing the standard of both teaching and research. To obtain research grants a considerable amount of unfunded research needs to be undertaken before a successful grant application can be prepared. Some typical comments:

*"The time and energy devoted to teaching impacts on research activities"*

*"The amount of paper work required for teaching and research impedes effort on both"*

The load on teaching staff has created a need to use research resources and staff to cover for the shortage of teaching resources. This is often applied at a level that is detrimental to both. Very often teaching is added without a corresponding reduction in the research expectations. Some comments:

*"He was expected to buy himself out of this extra teaching (with research funds) to allow time for the research"*

*"Some researchers are expected to take on teaching work for which they are not paid"*

*"The research fellow was expected to teach six two hour lectures per semester for which there was no remuneration"*

*"Some course coordinators give them extra responsibilities for which they are not adequately qualified or paid."*

Staff who would prefer to focus on teaching are under constant pressure to meet research output requirements. The paradox is that teaching takes priority in time allocation, but research takes priority in career recognition. Greater recognition should be given not only to teaching quality, but to course development and scholarship in higher education. Teaching-only positions should be permitted and rewarded. Similarly, more continuing appointments should be available for research-only staff, who may contribute to teaching through postgraduate supervision and sessional lecturing, but be relieved of teaching administration.

There are two clear problems in this area: the pressure on teaching staff and the need for permanent staff to initiate research applications.

The facts on teaching workloads are well known so there is no point in having a review of teaching loads and their effect. What is needed is a substantial increase in funding to allow teaching loads to be reduced, and a separation of research activity from subservience to teaching activity by allowing research-only staff to be initiators and chief investigators of proposals, and research time to be insulated from teaching and administrative demands.

**Recommendations:**

- 1. At least a 30% increase in resources to the sector in line with other comparable countries, and then an evaluation of the situation after this increase.**
- 2. Maximum academic work loads specified and progressively reduced to comparability with leading OECD countries, allowing flexibility in the teaching-research mix, including continuing appointments for teaching-only and research-only staff.**
- 3. Relaxation of restrictions on who can be chief investigators and funding for the preparation of research proposals.**

***b) The quality of undergraduate training as preparation for a research career***

The quality of teaching in Australian universities has suffered from funding cuts and restructuring, resulting in

- reduced numbers of tenured academics,
- reduced range of expertise within the faculty,
- greatly increased teaching and administrative loads on remaining academics,
- engagement of casual staff and graduate students to undertake teaching, including course coordination.

*“It is common for casual staff to be course coordinators. Far from being supported in developing or improving courses, they even have their email and internet access cut off at the end of each semester.”*

In addition, the focus on narrowly-defined ‘productivity’ has led to competition to increase student enrollments, with a customer-oriented approach. Universities are viewed primarily as an education marketplace for school-leavers, rather than a provider of skilled personnel for society as a whole. This emphasis has resulted in

- removal of prerequisite requirements for many courses,
- flexibility in program selection students of greatly varying preparation entering advanced courses,
- a mismatch of graduates with the skills sought by employers.

*“Some programs are still quite structured, but for others it has become the Sesame Street version: you can do F without having done A, B, C, D or E.”*

*“Five years ago there was a lot more challenging chemistry in this (3<sup>rd</sup> year soil science) course, but it’s been dropped because students just weren’t getting it.”*

Finally, the erosion of student income support means that most students combine full-time study with employment, and many work long hours to the detriment of their studies.

There is a sense that the 'customer' oriented model of undergraduate tertiary education has produced a situation in which prospective post-graduate RHD students lack both skills and knowledge required for pursuing PhD research.

*"With the down grading of Bachelor degrees, with mass teaching, students working long hours etc., the standard you get students to is not very high"*

*"Students are unprepared to take on a research program"*

Restoration of funding will in itself go a long way toward improving teaching quality. In addition to this, a review is warranted to evaluate how well tertiary teaching is meeting national skills needs, and where future shortfalls lie. Terms of reference should focus less on the student as customer, and more strategically on the universities' service to society. Creative options may be found for providing greater incentive to expand intakes of needed professions, and reduce universities' incentives to focus on low-cost, high through-put income-generating programs. The merits of the European (Bologna) or USA degree structure may be examined, with the recent adoption of the Bologna system by Melbourne University offering an opportunity to evaluate its impact in an Australian socioeconomic setting. Greater employer involvement may be useful in determining the cohort size and course structure. Cooperation between university and employers in marketing places, including employer-sponsored scholarships, would improve information flow to school-leavers on real career opportunities and result in a better distribution of tertiary resources in meeting future skills needs. Industry collaboration may also be extended through the greater use of adjunct professorships for senior staff of both government and corporate employer institutions.

### **Recommendations:**

- 1. Increase in funding of at least 30% for per-student (FTSU) payments to universities.**
- 2. A review of the tertiary teaching system to identify shortfalls and opportunities in meeting future skills needs, including possible changes in degree structures, and options for greater employer involvement.**

### ***c) Training and resourcing difficulties faced by postgraduate students:***

Our postgraduate programs put the onus on students to seek out training in research skills. The expectation used to be that close interaction with supervisors would provide research training. Due to supervisor workloads, they are no longer readily accessible to students. As a result, postgraduate students have not received as much research training as many comparable overseas students.

*"Research students are pretty much on their own - their supervisors are teaching 3 or even 4 courses per semester. In really top programs (overseas) each professor only teaches one course each semester, and spends a lot of time meeting individual students"*

Most overseas RHD programs require a course work component. In Australia, opinions differ on the value of this:

*"They (MIT students in USA) are really immersed in their discipline. Because of the coursework component, the thesis supervisory committee really knows the students,*



*knows what formation they have had, knows what interests them and what they are capable of. It's not the hit and miss selection system which seems to apply here. PhD students emerge from these programs with a solid foundation, they have real expertise in more than one area, they produce really solid work which typically advances the field, they work closely with other students in their cohort and with their thesis committee members and other staff."*

*"I think (the Australian system) produces better, more independent RHD graduates, instead of those who always have to be told what to do. This is a matter of degree of course – a little seminar/coursework can make a big difference to a RHD candidate. But a lot might also mean less time for research and deep thinking."*

Given the variability in undergraduate preparation and the low access to supervisors for guidance and mentorship, we conclude that a coursework component is highly preferable, both to improve the postgraduate experience and the quality of graduates.

Coursework should include both research skills training, and advanced courses to achieve broad and current expertise in their discipline.

The period of candidacy should be increased to accommodate coursework. To a certain extent, coursework can be expected to make the research component more efficient, but this is unlikely to fully compensate for the time taken on coursework. Implementation may be through a course-work Masters as a pre-requisite for PhD, or through provisional enrollment of PhD prior to course work completion.

Often insufficient funds are provided for students to undertake research. Students have to depend on their supervisors finding money to support them from grants. This restricts the scope of research that students may choose to engage in.

While entry requirements seem to have declined, the expectations of achievement at the end of a PhD program have been tacitly increased, with the increased competitiveness for rare academic positions. It seems that skills that were once expected to be acquired in the course of the Academic A entry level position, such as publishing, teaching and committee work, are now expected to be acquired during the PhD process, adding to the load of postgraduate students, accompanied by a commensurate loss of entry level Academic A positions for PhD graduates to move into.

### **Recommendations:**

- 1. Introduction of course work as a formal part of postgraduate research degrees**
  - 2. The duration of candidature and scholarships should be increased to accommodate course work.**
  - 3. Make the expectations of skills to be acquired during the PhD process more explicit, and fund proper training for the acquisition of these skills.**
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### 3. Research Careers

A number of inter-related issues affect the size, quality and sustainability of the Australian research workforce:

- choice of a career in research;
- choosing to stay in / come to Australia to pursue a research career;
- gender imbalance in the research and academic workforce;
- aging of the research and academic workforce;

These will be discussed in turn, with most emphasis on the first item, as others relate to many of the same factors.

#### *a) Factors affecting recruitment of bright and effective people into research careers in Australia*

Most researchers begin a research career path from the end of their undergraduate degree, by choosing to do postgraduate study. Some first obtain research experience in Government or private research agencies before taking on a higher degree. Others are motivated to focus on research in mid-career, in an effort to advance an area with which they have become involved in their working life. The latter are often not supported in moving into a sustainable research career after their postgraduate degree, with their prior career not valued in allowing them to attain the seniority reflective of their expertise, and 'early career researcher' opportunities not competitive with returning to their prior career.

For those choosing a research career immediately or shortly after a first degree, important factors are

- ability to 'make a difference' through research
- financial feasibility of taking on a post-graduate degree program
- potential remuneration
- income security
- collegiality
- freedom to control the direction of inquiry
- reward for achievement

Many of these areas have been progressively undermined by under-funding of universities, and the consequent limitations on employment conditions and work context.

#### *Ability to 'make a difference'*

Most researchers have an altruistic motive for pursuing research and many sacrifice personal reward to a certain extent, but even the potential to 'make a difference' has been eroded by the many constraints placed on Australian researchers, and many leave research through disillusion rather than discontent with working conditions. (This has been a windfall gain to the secondary teaching profession, but an inefficient means of achieving that end.)

#### *Financial feasibility of taking on a post-graduate degree program*

The inadequacy of funding of the APS has been discussed at length elsewhere. This is a real constraint for many potential post-graduate students, and a strong disincentive for others. Most concerning is the extent to which financial stress increases the non-completion rate.

### Potential remuneration and income security

The opportunity cost of four years spent in postgraduate study is poorly reflected in academic salary scales, which compare poorly with median income of single-degree graduates after four years of employment. Job security in academia is essentially non-existent, with even continuing positions under threat from downsizing or restructuring. The number of continuing positions in universities has decreased, with casual appointments covering an increasing proportion of teaching activity and research predominantly done by fixed-term grant-funded staff. Opportunities for career advancement are systemically limited for both casual and fixed-term staff.

### Collegiality

The downsizing of many research units in Australia means that Australian academics often work in isolation, being the only representative of their branch of a discipline in their institution. Isolation is also a product of excessive workloads, which deter most academics from engaging in exchange and discussion of other people's work or potential collaborations, simply because they have no time for any discretionary activity. Most departments have experienced the difficulty in maintaining a regular seminar program, as attendance by faculty is too low. Even informal exchange in the tearoom has eroded, as tea breaks and even lunch breaks become optional, and many units don't even have a room available for such social interaction. This isolation extends to postgraduate students, who often have limited contact with their supervisors, only sufficient to ensure that required progress indicators are met, rather than forming a mentor-mentee relationship.

### Freedom to control the direction of inquiry

The Go8 (2007) [Group of Eight Background Paper, Researcher Supply and Demand – no 3, 2007] remarked that “*researcher autonomy is perceived to be more constrained, regulatory compliance obligations are more exacting, administrative tasks are more burdensome, expectations of self-generated income are more demanding*”. Our members have repeatedly reported that the increased competitiveness of research grants (i.e. reduced probability of successful application) together with the increasingly bureaucratic application process, consumes a disproportionate amount of research time and effort. Shifting strategic agenda of granting bodies make it difficult to predict which proposals are most likely to succeed. Researchers on fixed-term contracts frequently have little capacity to influence the direction of research, as the project is defined before their engagement.

Existing workloads of Australian academics prevents them from engaging in the research they wish to do, and from competing internationally in fields that are moving quickly. They make ongoing training and upskilling almost impossible; for example, academic staff are not able to become fully acquainted with emergent research techniques. They are a major deterrent for academics moving from overseas to Australia, and have been the cause of many returning overseas after only a short stay here. They are unattractive to post-doctoral researchers who are passionate about furthering their research interests, because they so clearly limit the capacity to do this. Yet, without a “continuing” teaching/research position, the options for post-doctoral researchers are limited in almost every other dimension.

### Reward for achievement

Research-only positions in universities are almost invariably on fixed-term contracts, with durations typically between 12 months and 4 years. Renewal of contract after this period depends on receiving funding for a subsequent project. However, without a continuing appointment, the researcher is not permitted to apply for funding in her or his own name, but

must ghost-write the application in the name of a tenured academic. Regardless of the achievement in a previous project, the likelihood of any individual proposal being funded is relatively small so it is typical to have to develop several funding proposals. This work is not recognized or remunerated. If applications are unsuccessful, employment must be sought elsewhere, often resulting in productive areas of research being abandoned. If a project is funded, it is the nominal Chief Investigator who is credited. The researcher is restricted in taking on postgraduate students, building collaborations or otherwise building an independent research profile. They are generally not even regarded as members of faculty, even though they may be obliged to take on unremunerated teaching duties.

Researchers on fixed-term contracts have limited capacity to apply for promotion, because the increased salary cannot be accommodated in the project budget, and because much of their research achievement has been officially accredited to their supervisor. One option reported by several researchers for funding a successful promotion application is to reduce the employment contract to part time (although continuing to work full time) so that total remuneration is unchanged.

Sabbatical, or Special Study Leave, is generally not available to researchers on fixed-term contracts. Their need for time-out to write publications or develop collaborations is no less than for academics on continuing appointments, but they are expected to do these things in their own time. Fixed-term researchers are also disadvantaged in obtaining long-service leave, due to inevitable breaks in service.

It is not in the interests of universities to support research-only staff through continuing positions unless research costs are fully funded by grants. Currently grants offer a limited range of salary scales, not accommodating mid-career researchers, and may not cover the full superannuation entitlement. For ARC fellowships at least, eligibility criteria prevent mid-career researchers from applying. They may offer limited research expenses, often requiring a proportion of in-kind contribution from the host institution. The time commitment of continuing staff members is usually not covered. Given that the era of research funding through core grants to universities is long over, it is time for granting agencies to acknowledge the need for full funding of research costs. They should also recognize the reality of fixed-term employment in research careers and allow non-tenured researchers to apply as chief investigator.

### ***b) Choosing to stay in / come to Australia to pursue a research career***

The choice to stay in Australia, rather than moving overseas, is obviously affected by the relativity of what is available in Australia and overseas, with respect to any or all of the above criteria. Of particular importance are:

- lack of critical mass in research groups,
- lack of contact with more senior researchers,
- lack of career paths, and
- the unattractiveness of teaching/research positions due to teaching loads.

### ***c) Gender imbalance in the research and academic workforce***

The gender imbalance in academia has resisted various measures to equalize employment opportunities. There are a number of potential reasons for this:

- excessive workloads are less attractive and less feasible for women with families;

- unwillingness to relocate, with the dominance of short-term contracts making this a likely requirement in an academic career;
- persistent illusiveness of a truly merit-based system rather than a system usually requiring more strategic self-promotion, to which most women have generally been less inclined.

Improved funding and reduced teaching loads will have a positive effect on opportunities for women in academia, through creation of more continuing positions and less work-related stress. Less restrictive conditions on grant applications will also result in more objectively merit-based opportunities.

#### *d) Aging of the research and academic workforce*

The aging of the academic workforce is a natural result of funding cuts, resulting in

- less recruitment (retired academics not being replaced) and
- redundancies on a last-in-first-out basis.

Evidence for this direct relationship of funding with aging can be seen by the coincidence of the period of steepest aging of the workforce (1996 – 2001) [see NTEU submission to this inquiry, Chart 9] with the Howard Government's 'productivity'-focused restructuring of funding and governance of universities.

#### **Recommendations:**

- 1. Substantial (at least 30%) increase in funding to the tertiary sector to enable workloads to be rationalized and allow an environment more conducive to productive research.**
- 2. Review and reform of the ARC and NHMRC funding criteria, allowing**
  - **full funding of research, including**
    - **full salary with on-costs and superannuation at the institution's scale reflecting the seniority and achievement of the researcher, and capacity for funding adjustment to allow a justified promotion;**
    - **full recovery of research costs, including infrastructure, research facilities and services, and the time contribution of tenured staff.**
  - **removal of eligibility restrictions on fellowships, particularly the number of years since PhD completion.**
  - **research of specifically Australian interest should not be rated against more global work on the basis of publication in international journals. A separate allocation with separate criteria should be made for this work.**
  - **acceptance of non-tenured researchers as chief investigators.**
  - **funding for the preparation of proposals.**
- 3. Teaching loads should be reduced, with the aim to reach comparability with OECD countries. In defining loads, there should also be more flexibility in the teaching and research mix, allowing**
  - **opportunities, recognition and career path for teaching-only positions with an emphasis on program development and scholarship in tertiary education, and**

- **continuing appointments for research-only staff, which may include postgraduate supervision and sessional lecturing.**
  - **More administrative support should be provided to academic staff so that they can do more ongoing training in research skills, and have more opportunity to share their skills with others.**
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## **Statement of Interests:**

The authors and contributors are members of the University of Queensland (including post-graduate students, research-only staff, and academic teaching and research staff members from diverse disciplines). They may engage with the National Tertiary Education Union from time to time on a voluntary basis, to raise the profile of issues of concern to staff. No participant receives payment or favour with respect to this involvement with the NTEU.

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