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Committee Secretary
Standing Committee on Industry, Science and Innovation
PO Box 6021
House of Representatives
Parliament House
CANBERRA ACT 2600

26th May 2008

Re: Inquiry into research training and research workforce issues in Australian universities.

To the Standing Committee on Industry, Science and Innovation.

Thank you for the opportunity to make a submission to the Inquiry into research training and research workforce issues in Australian universities.

The University of Western Sydney nurtures a distinctive, high-impact research culture, committed to enhancing our region's cultural, economic, environmental and educational development, and responsive to contemporary challenges in Greater Western Sydney and beyond.

We are recognised for our capacity to carry out successful collaborative research partnerships and for our work with partners from industry and from the government and community sectors.

To build on our research strengths, we are committed to developing future generations of researchers through research training programs for postgraduate research students, postdoctoral fellows, and early career researchers. Our research commitment is supported by a ten year research investment program.

Yours sincerely,

Professor Andrew Cheetham
Pro Vice-Chancellor (Research)

**University of Western Sydney Submission
Inquiry into Research Training and Research Workforce Issues
in Australian Universities**

1. *The contribution that Australian universities make to research in Australia, including:*
 - a. *The contribution of research training programs to Australia's competitiveness in the areas of science, research and innovation;*
 - i. There is little doubt that research training adds significantly to Australia's competitiveness in science, research and innovation. In universities this contribution arises through the three way interaction between students, their supervisors and their research group. This interaction is all-important in maintaining the innovative momentum of an active research area.
 - ii. However, innovation should not be simply conflated with science. It is vital that research is actively engaged with business, industry and the community. Australia's research model is largely science biased and pays insufficient attention to engagement and to the essential business, social and cultural issues surrounding the development and commercialisation of scientific breakthroughs.
 - b. *The effectiveness of current Commonwealth research training schemes;*
 - i. The current Commonwealth research training scheme is effective, but is no longer broad enough to provide for the future needs of the country.
 - ii. The RTS funding is rigid and does not provide for growth in the sector, and indeed the levels of provision do not adequately cover the costs of research training in the institutions. The simple High-Cost / Low-Cost model must be re-evaluated, particularly in response to the increasing importance of cross- and inter-disciplinary research areas responding to the realities of a rapidly changing global environment.
 - iii. The current scheme militates against those potential students who wish to undertake a PhD after several years in industry or business. Australia's universities must work with industry to develop a research training model that will enable uptake by industry to improve its innovation potential.
 - c. *The adequacy of current research training schemes to support Australia's anticipated future requirements for tertiary-qualified professionals in a wide range of disciplines.*
 - i. We do not believe that the current schemes are adequate to support Australia's anticipated needs.
 - ii. There is already a diminished labour pool for appointment to post-doctoral and junior academic positions; this situation will only deteriorate as the generational change accelerates over the next five

to ten years in both the university sector and in Australia's major research organisations.

- iii. There is already a difficulty in maintaining a critical mass of PhD scholars for the conduct of integrated research training programs. The number of APA Scholarships should be urgently increased as well as their duration (see 1.c.iv) and value (see 2.a)
- iv. The duration of the APA stipend for PhD training is too short: in addition to increasing the opportunity to complete and publish research during candidature, the breadth and depth of research training needed in preparation for a research career or a university research and teaching career would be better accomplished in 3½ to 4 years.
- v. Recruitment of international students with a view to future employment in the Australian system should be anticipated. Overseas recruitment should be facilitated by a relaxing of the Australian resident eligibility rules in many circumstances and a possible expansion of overseas recruitment via Australia's aid schemes.

2. *The challenges Australian universities face in training, recruiting and retaining high quality research graduates and staff, including, but not limited to:*

- a. *Adequacy of training and support (including income support) available to research graduates in Australia;*
 - i. We believe that the level of remuneration for postgraduate research students is not adequate. Indeed, research has shown that the current APA is now below the Henderson poverty line for individuals.
 - ii. This low level of remuneration for postgraduate research students should be compared with the high levels of remuneration for their full-time working peers and in the context of high capital city housing costs, and rising living standard expectations among young adults. Comparisons with other OECD nations, particularly in northern Europe, also indicate that the per capita number and dollar value of research stipend scholarships in Australia is falling well short of similarly developed nations.
 - iii. Consideration could be made of tax obligations e.g. reduction of accumulated HECS tax liabilities by tax credits for education related expenses. Currently a non-taxed PhD stipend means the recipient has effectively no income to make claims against.
 - iv. In some research areas research income support is not the issue, as the Commonwealth could never offer a stipend anywhere near the commencing salaries. The support needed is a system of working with industry so that practising professionals can research as they practise and researchers can travel easily between the academy and practice.
 - v. We would emphasise the inadequacy and inflexibility of the RTS resourcing of universities; see 1.b.ii above.
- b. *Factors for graduates that determine pursuit of a career in research;*
 - i. A career in research, whether in academe, government or industry, is rarely a determining factor when a student begins their undergraduate

studies. Students catch the research bug through exposure to enthusiastic researchers as lecturers and, importantly, through direct contact with researchers and participation in projects in the latter years of their degree; in particular the Honours year, although participation in undergraduate Honours programs varies significantly between the disciplines. However,

- ii. competition from non-academic career paths arising from labour shortages in the general labour market, will affect this choice,
- iii. as will the low base remuneration levels for postgraduate research scholars, and
- iv. the lack of a well defined and respected career path as a researcher, see 2.c below.

c. Opportunities for career advancement for research graduates and staff;

- i. A major deterrent in pursuing a research career is the lack of a well defined career path after graduation, particularly in the Higher Education Sector, but also in many research institutes. For example, once a researcher has finished an APD the only research career grant option is an ARF or QEII (and these are difficult to obtain). Some additional bridging-level funding opportunity would help a researcher to establish a career.
- ii. Australia is a small nation isolated from the major research centres of the world. We need systems whereby we can encourage our brightest to work in those centres but with an incentive to return with experience and a network of contacts. However the scholarship route is very difficult for them, and more to the point there is no incentive to return to a nation which undervalues intellectual effort.
- iii. The Future Fellowships for mid-career academics could play a strong role in this issue. However, there should be a priority in the allocation of these fellowships to attracting researchers to the sector rather than rewarding those already in it.

d. Factors determining pursuit of research opportunities overseas;

- i. There are intellectual opportunities in major research institutions and corporations overseas that simply do not exist in Australia (see 2.c.ii). Australia must consider how to build and resource links to such organisations and projects such that our young researchers can participate in these exciting programs without having to abandon Australia as their home base.
- ii. Relatively low levels of academic remuneration are available compared with other professionals, especially in the private sector, in Australian capital cities.
- iii. In Australia we neither support nor celebrate a high level of intellectual activity; this would require a significant culture change.

- e. Australia's ability to compete internationally for high quality researchers;*
- i. Many international students consider a thesis-only PhD to be inadequate. We must embrace the challenge to make the Australian PhD more competitive in the marketplace and consider an advanced-level coursework component that will enhance research education.
 - ii. Scholarships from the government or from central university funds should be complemented by offering research and teaching assistant positions to PhD candidates.
 - iii. International access to Australian research scholarships for major research projects e.g. those funded under ARC and NH&MRC schemes, should be considered.
 - iv. The difficulty of successfully recruiting trained staff from overseas is exacerbated by lengthy immigration control procedures. These procedures can delay an appointment by up to 12 months. In this time alternate job offers to the appointee often result in failure of the appointment process. Investigation should be made into ways to reduce the time lag between offer and arrival in Australia. This might be by way of priority processing arrangements or by granting of provisional visas.
 - v. The lack of opportunity for continuous devoted research careers in Australia, not only in basic science and medical research, but in areas more central to socio-cultural wellbeing is a major factor behind our slight decrease in international competitiveness over the last decade, and behind both our ageing research community and our continued permanent loss of more people than desirable to other countries.
- f. Whether Australia's academic workforce is ageing, and the impact this may have on Australia's research capacity.*
- i. There is no doubt that the academic workforce is ageing; several demographic studies have shown this.
 - ii. There is also no doubt that this will have an impact if not addressed. Analysis of research success in terms of research income, publications and student supervision shows that senior staff provide by far the bulk of an institution's research output.
 - iii. The question is how to mitigate the impact of losing a large number of senior staff in a short timeframe. The implementation of effective incentives to keep productive scholars active long enough to mentor upcoming younger staff will be essential.
 - iv. The Futures Fellowships scheme should be used to help fill the mid career gap. It will be imperative that this scheme is designed with the primary aim to bring new blood into the sector rather than reward those already in it.
 - v. Effective support for Early Career Researchers will be vital to ensure a pipeline of research active scholars (see 2.c.i).