



Flinders
UNIVERSITY
ADELAIDE • AUSTRALIA

Professor Chris Marlin
Deputy Vice-Chancellor (Research)
Professor of Computer Science
Sturt Road, Bedford Park, SA 5042
GPO Box 2100
Adelaide SA 5001
Tel +61 8 8201 2683
Fax +61 8 8201 5949
chris.marlin@flinders.edu.au
www.flinders.edu.au
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Inquiry into research training and research workforce issues in Australian universities– submission

Mr Russell Chafer
The Secretary of the Committee
House Standing Committee on Industry, Science and Innovation
PO Box 6021
Parliament House
Canberra ACT 2600

Dear Mr Chafer

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

As a member University of the Innovative Research Universities Australia (IRUA), Flinders University supports and endorses the IRUA submission. In addition, Flinders University would like to respond specifically to the Government's terms of reference in the following terms:

1. The contribution that Australian universities make to research in Australia, including:

- *The contribution of research training programs to Australia's competitiveness in the areas of science, research and innovation;*

Research training programs (e.g., PhD studies and Post Doctoral Fellowships) are vital for Australia to sustain and maintain a new generation of internationally competitive researchers. A large proportion of Australia's research is conducted by, or in conjunction with, PhD students and postdoctoral fellows; it would be no exaggeration to estimate that more than half of all research in Australia is conducted in this way. The outcomes from research training programs - specifically, the production of trained researchers, scientific publications, new ideas and innovative outputs - are essential for Australia's economy, contribution to international research, innovation and society.

These research training programs are also creating essential human capital as they prepare future generations of the nation's researchers.

inspiring
achievement

- *The effectiveness of current Commonwealth research training schemes;*

The current Commonwealth research training schemes produce high quality researchers in all fields; however, inadequate stipend support may well be linked to the observed decline in demand from Australian domestic applicants. Increasing the stipend value by around 50%, while maintaining tax-free status, is very likely to have a significant influence on demand from Australian students.

Linked to the declining demand from Australian domestic applicants, the effectiveness of the current Commonwealth research training schemes are limited by the fact that many international students are not eligible for the scholarships on offer; opening Australian Postgraduate Awards (APAs) to international students, increasing the length of scholarship support to international students and providing visa opportunities to stay in Australia after higher degree studies, would assist significantly. A specific scheme to retain the best international higher degree graduates in Australia as postdoctoral fellows would also help to build Australia's research capacity and performance.

- *The adequacy of current research training schemes to support Australia's anticipated future requirements for tertiary-qualified professionals in a wide range of disciplines.*

A joint national workshop of the Higher Education sector and industry would assist understanding the future demand for tertiary-qualified professionals; this could then be followed up by specific sessions around the identified future key areas. A review of trends in research training investment in Europe and the United States may also be informative.

It is already clear that a number of areas, such as Mathematics and Languages, face a future crisis in terms of national capacity and this needs to be addressed.

Increasing the overall number of higher degree scholarships, and specifically increasing the number of 'targeted' higher degree scholarships, will help sustain and develop tertiary-qualified professionals to meet Australia's needs.

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

- *Adequacy of training and support (including income support) available to research graduates in Australia;*

The job prospects for higher degree graduates choosing to focus on a research career are among the most insecure in the contract - living from 3- or 5-year contract to 3- or 5-year contract, having to effectively apply for their jobs again one or two years before contract end, and so on. Some of our best and brightest have among the worst job prospects, making a research career unattractive in relation to other options.

It is time to rethink this whole system and assist universities to give job security to those pursuing a research career. Succession planning strategies would be a key part of such a strategy.

- *Factors for graduates that determine pursuit of a career in research;*

Factors that may influence graduates in determining a career path are: income, academic interest, postdoctoral opportunities, job prospects and security, mentoring by more senior academic staff, and other factors. One key factor is the existence of truly world-class concentrations in the particular area of interest - this argues for continuing to have universities focus on areas of real strength and invest in these. Infrastructure is also a factor in retaining graduates in many areas; concentration by institutions on particular areas helps to ensure that the required infrastructure is available, through the institution's consequent investment.

Increasing the number of postdoctoral opportunities would also have a positive impact, as would the availability of permanent research-only positions following these postdoctoral fellowships. Many excellent postdoctoral fellows do not end up in research careers due to the lack of suitable research positions or are enticed to more attractive international appointments.

We need to make sure that graduates want to continue to do excellent research in Australia and to do that, we need to make sure we have the best infrastructure and support networks.

- *Opportunities for career advancement for research graduates and staff;*

Career advancement by Australian research graduates and staff will be enhanced by having them attend and present at national and international conferences (perhaps involving mentoring), to publish results in high impact/quality journals, to join and participate in professional societies and to work collaboratively will lead to career advancement. In addition, providing a higher level of job security will be critical in keeping research graduates and staff in research careers and hence is a significant factor in their career advancement.

Overseas experience is also an important factor in career advancement and suitable opportunities need to be provided, with a suitable pathway back to a position in Australia, so that Australia benefits from this experience.

- *Factors determining pursuit of research opportunities overseas;*

Overseas experience is an important part of an internationally-benchmarked research program and needs to be facilitated.

A higher degree student may experience difficulty in pursuing research experience overseas because of the difficulty of covering additional travel and accommodation costs and for a number of other reasons.

Higher degree students and postdoctoral fellows might be attracted to research opportunities overseas following their overseas experience, because of higher salaries, better job security, etc. What is required is a system which encourages international research experience, but which also provides a pathway back to Australia. A good example is the CJ Martin Biomedical Fellowships, which involve two years at an overseas university, followed by two years at an Australian university. This type of fellowship needs to be expanded into other areas of research, such as Science, Engineering, Humanities and Social Sciences.

- *Australia's ability to compete internationally for high quality researchers; and*

Our ability to compete for high quality researchers is a reflection of the quality of our research outputs, the researchers currently in Australian universities, the research infrastructure we provide, the extent of our international research collaborations, salary levels, employment conditions and the ease which visas can be obtained for suitable appointees.

Providing greater flexibility and efficiency with respect to granting visas for researchers – such as the capacity to bring in high quality overseas researchers at relatively short notice to work (with some financial support) on major research projects - will significantly enhance our ability to compete internationally for high quality researchers.

Our ability to compete internationally will also be enhanced by greater concentration of research in high quality, focused aggregations with world class infrastructure.

- *Whether Australia's academic workforce is ageing, and the impact this may have on Australia's research capacity.*

There is no doubt that Australia's academic workforce is ageing. This has been well documented, in particular by Professor Graeme Hugo:

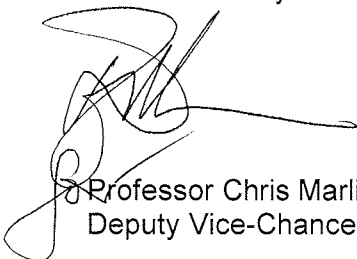
Hugo G. 2005a, *Demographic Trends in Australia's Academic Workforce*. Journal of Higher Education Policy and Management, Volume 27, Issue 3, pp 327 – 343.

Hugo G. 2005b *Some emerging demographic issues on Australia's teaching academic workforce*. Higher Education Policy (2005) 18, 207–229.

The Enquiry is encouraged to examine the available data on this issue.

We would welcome the opportunity to provide further input to the Enquiry, as appropriate, and to meet with the Enquiry to explore these important issues in more detail.

Yours sincerely



Professor Chris Marlin
Deputy Vice-Chancellor (Research)

Cc: Professor Michael Barber, Vice-Chancellor