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The Secretary of the Committee
House Standing Committee on Industry, Science and Innovation
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To the Secretary of the Committee,

RE: House Standing Committee on Innovation, Industry, Science and Research
Inquiry into Australia's international research collaborations

The University of Newcastle recognises the importance of international research collaboration to the Australian research sector, and the fundamental value of global alliances in producing novel, transformational research outcomes. With an increasing focus on internationalisation across all major global sectors, including education and industry, research collaboration must move beyond our geographical borders if we are to cement Australia's position within the forefront of ideas and innovation.

The University of Newcastle welcomes the House of Representatives' Standing Committee on Innovation, Industry, Science and Research inquiry into Australia's international research engagement. Providing universities and key research organisations with the opportunity to articulate their views on international research collaboration signals the Government's recognition of the importance of this subject. Having said this, a more vigorous and strategic pursuit and exploitation of the opportunities made available through international research collaboration is required if Australia is to retain a competitive profile in the international research landscape, and to ensure that we do not fall behind in the research 'game'.

To ensure that we retain a competitive profile in the international research landscape, the further development of intensive and strategic international research collaboration must be positioned high on Australia's research agenda; championed by institutions and government alike.

To aid the House of Representatives' Standing Committee on Innovation, Industry, Science and Research inquiry into Australia's international research engagement please see the University of Newcastle's responses to the inquiry's Terms of Reference addressed below:

1. The nature and extent of existing international research collaborations.

The University of Newcastle has a strong and vibrant research culture with a reputation for excellence. We hold a distinct place in the Australian higher education sector as the most research intensive university outside of an Australian capital city. Our achievement is reflected in our consistent ranking within the top 10 Australian Universities for research income and outcomes.

Nationally and internationally the University of Newcastle is recognised for our scientific contributions across a range of research fields with particular strength in health, science and engineering, and energy and the environment. Our research within other disciplines, including mathematics and the humanities and social sciences is also expanding with increasing accomplishment. We are proud of our research and discovery which has had a significant impact on the economic, social, environmental and cultural landscape of Australia.

As a University, we recognise the importance of fostering international research collaboration. We indicate our commitment to this research tenet via our *Building Distinction: Strategic Plan 2007 – 2011* within which Priority 2 articulates further enhancing our international research profile and impact as a key strategic goal.

Like our fellow higher education and research institutions in Australia, the University of Newcastle has already fostered significant international collaborations. This is evident via our research projects involving international collaborators, and the funding support that we have received from international sources; in the 2006 – 2008 we received in excess of \$5.9 million in international grant income as reported via our annual HERDC audited income.

At an institutional level, the University has made significant progress with the establishment of formal international research partnerships; chiefly in China, Japan, Indian, United States, Canada and Europe. These include continuation of significant research collaborations in China with the Harbin Institute of Technology, Harbin Medical University, Beijing Institute of Technology, East China University of Science and Technology, Guizhou University and Huazhong University. We are also in the process of establishing a Confucius Institute with funding provided by the Chinese Government via the Ministry of Education. This is the last Institute to be approved and the only one in a regional location in Australia. As a result of these efforts, there have been a number of high-level delegations to and from China. Furthermore, the University has sponsored a number of Chinese academics to undertake short-term research visits to Newcastle. These have allowed Chinese academics to spend up to three months working on research projects with local hosts. A number of on-going research collaborations have emerged from this initiative.

In Japan, the University has continued our long-standing relationship with Kumamoto University, which is currently ranked within the top 10 Japanese universities. This partnership has a strong tradition in student exchange, with more than 140 students from both universities participating in exchange programs over the past 20 years.

New international research collaborations are also on the horizon. The University is currently in the early stages of establishing a multifaceted research partnership with the University of Limerick in Ireland, and we are actively exploring links with key institutions in South Africa, Indonesia and Malaysia.

The University recognises that research training plays a significant role in fostering international collaboration, and our international research higher degree (RHD) students are an essential part of our internationalism strategy. Accordingly, we have significantly increased the number of scholarship available to international candidates. We also provide a Tuition Fee Scholarship for a many of our international RHD students; currently we have 160 international RHD candidates whose university fees are paid by way of this scholarship and of these candidates 134 are fully-funded by the University.

A key part of the University's recruitment strategy for international research higher degree (RHD) students is to support areas of research strength and build partnerships with specifically identified overseas institutions, governments and universities in targeted countries. Strategic relationships and scholarship programs, including English Language Support, have been instigated with institutions in Africa and India. The University is participating in overseas government sponsored programs in China, Chile, Saudi Arabia and Vietnam. Ongoing discussions are being held with key institutions in Thailand and Malaysia. Furthermore, we are also engaging international institutions through the development of joint-badged research higher degrees.

While we are proud of our existing international research collaborations, the University recognises that continued and increased effort and global engagement is required. There is room to grow, and this will be essential if we are to maintain our reputation of excellence and sustain our tradition of scientific achievement over a range or research fields.

2. The benefits to Australia from engaging in international research collaborations.

It is without doubt that engagement in international research collaboration has been a significant focus of each Australian institution that has place well in the Shanghai Jiao Tong and Times Education University rankings. The reputation of universities is set by research performance. For example, the Shanghai Jiao Tong Academic Ranking of World Universities is totally research-based.

Increased international research collaboration is essential if we wish to grow the number and ensure the consistency of Australian institutions recognised in these key indicators of excellence. Additionally, participation in greater research partnerships worldwide will only enhance our national capacity to increase research output, such a co-authored research publications, and produce translational research outcomes.

A major barrier to research intensity and capacity within Australia continues to be availability and flexibility of funding to support research. International research collaboration offers members of our research community an economic sustenance that, to-date, remains under-utilised. Funding prospects through prominent overseas bodies, such as the US National Institute of Health (NIH) and the National Science Foundation (NSF) are well-recognised, though under-harnessed by our local research population. However, the huge investment potential of international industry must also be realised; as the end-users of applied research, industry offers an almost unlimited market for research support. This should feature significantly in Australia's focus when considering international research collaboration strategy.

Of course, a major advantage offered to Australia through international research partnerships is the collaborative element itself. Concerted research effort on a global scale can only increase the probability of pioneering ground-breaking research discovery. Connectivity between researcher groups unlocks our access to research knowledge and skill en-mass; this is often limited within Australia due to our relatively small population. The process of collaboration provides our national researchers with the opportunity to establish broad networks of specialised expertise vital to the production of ideas and research outcomes of international quality and recognition. International research collaboration promotes the mobility of our researchers, broadening their experience and expertise via face-to-face contact and lessening the potential risks from working in isolation.

International research collaborations provide Australian universities increased leverage to engage with industry. In Newcastle, major export industries are multi-national companies, therefore we need to engage with them in an international context to be competitive.

International collaboration provides Australian universities with greater access to quality international students.

3. The key drivers of international research collaboration at the government, institutional and researcher levels.

At a government level:

- International research collaboration has much to offer Australia in the way of economic and intellectual capital.
- Applied research offers considerable financial benefit to the nation, which is only set to rise with increasing globalisation.
- International research collaboration increases the likelihood of substantial return on research investment made by Government via the distribution of research-associated costs through international partnerships.

At an institutional level:

- Global alliances in areas of research strength are essential to meet our institutional objective of enhancing research profile and impact.
- Strategic partnerships, including those on an international scale, promote the consolidation of both resources (funding and infrastructure) and knowledge, providing a wider platform on which to undertake cutting-edge scientific discovery and foster tangible research outcomes.
- International research collaboration increases our potential to find solutions to issues of global importance.

At a researcher level:

- Greater access to funding support, infrastructure and world-class facilities that may not be accessible within Australia.
- Significant access to global networks of specialised knowledge increases the likelihood of research outcomes
- Wider access to quality research higher degree (RHD) students.

4. *The impediments faced by Australian researchers when initiating and participating in international research collaborations and practical measures for addressing these.*

- Lack of funds available for researcher travel to facilitate collaboration and undertake face-to-face networking with international colleagues.
- Limited funding and flexibility in current schemes to undertake components of Australian research projects off-shore.
- Limited funding and schemes available to host visiting fellowships (both in Australia and offshore) and prestigious visitor projects.

5. *Principles and strategies for supporting international research engagement.*

- Greater funding for research travel required; support to attend major international conferences, visit overseas colleagues and access world-class facilities is essential.
- Expansion of opportunities for Australian researchers to work overseas, such as international and visiting fellowship programs.
- Greater government involvement in brokering formal international collaborations, including government-to-government strategies.
- Increase in research funds available to undertake international collaborative projects.
- Greater flexibility afforded within current government funding schemes to undertake components of research projects overseas.
- Increased access to government-level negotiation to make it easier to participate in EU frameworks, and to streamline to application process for frameworks of others, e.g. FAST, Australian China Fund.
- Better support for international visitors to Australia is required; for example streamlines and less restricted visas, no fees for their children to attend public schools.
- FEAST needs to be made much more accessible and user friendly, and should assist Australian institutions in identifying opportunities and establishing collaborations.

Should you require any further information please do not hesitate to contact me on 02 4921 5441.

Yours sincerely



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