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Standing Committee for Science and Innovation Submission  
House of Representatives  
Parliament House  
CANBERRA ACT 2600

### **Research training and research workforce issues in Australian universities - submission**

Dear Standing Committee,

The purpose of this submission is to draw the committee's attention to a research study I conducted at Queensland University of Technology in 2006/7 to describe and benchmark the university's research-only staff human resourcing, including employment, research capabilities, and professional development, and to make strategic recommendations regarding research-only staff recruitment, employment, retention and development.

This study addresses objective 2 outlined in the Terms of Reference: *the challenges Australian universities face in training, recruiting and retaining high quality research graduates and staff.*

I append the full project report, and have highlighted some of the key findings and recommendations below.

#### **The Research Productivity of Universities**

Australian universities are operating within a new order which is progressively moving away from the traditional 'monastic culture' toward accountability and relevant performance<sup>1,2</sup>. Under federal government research funding schemes, universities are required to demonstrate that they are conducting high impact, high quality, high volume research.

A review of twelve current university strategic workforce and research plans from a cross-section of Group of Eight, Australian Technology Network, Innovation and New Generation Universities revealed four primary strategies for leveraging research capacity. These were: (i) the recruitment of high-performing research professors to give an immediate boost to a university's profile; (ii) development and scaffolding of research capabilities in early- to mid-career teaching-and-research academic staff; (iii) building expertise amongst key 'cluster' research areas; and (iv) increasing research higher degree enrolments and completions.

These strategies are all aimed to achieve short- to medium- term impact on University rankings. Considerably less visible than any of the personnel mentioned above are research-only staff, who are centrally important to research output in that they provide much of the substantive work of research. No mention of research-only staff was made in any of the strategic workforce and research plans reviewed.

#### **Defining 'Research-Only Staff'**

Research-only is one of four DEST work-function categories assigned to staff in the higher education sector, the others being teaching-only, teaching and research, and other<sup>3</sup>. Australian universities report staff numbers in each category annually. According to DEST, research-only staff are those whose, "work involves undertaking only research work or providing technical or professional research assistance, or the management and leadership of research staff and of staff who support research staff."<sup>4</sup>

Research-only staff have previously been documented to operate primarily within a collaborative research project context, and often on a project-by-project basis, based on research grant funding<sup>5</sup>. However, research-only staff are a heterogeneous group, who may

be employed under a range of classifications and employment arrangements, to perform a wide range of research associated tasks, as discussed below.

Academic research-only staff ('research associates' or 'research fellows') usually engage in a recurrent cycle of research work: they seek funding for an upcoming project, which if successful will then ensure continued work for the life of the project, that consequently forms the basis for the next grant application. Other academic research-only staff, 'postdoctoral fellows', may use an initial postdoctoral research-only position as a stepping-stone to teaching and research academic positions.

By contrast, general scale research-only staff ('research assistants' or 'research officers'), are customarily hired by project leaders when funding is secured in order to undertake the research – most commonly to conduct literature reviews, collect and analyse data, and disseminate findings<sup>6</sup>. These individuals can be employed to perform very basic research tasks such as data entry, or may perform complex design, analysis, or managerial roles. In line with the diversity in research tasks undertaken, general scale research-only staff may: be undergraduates with minimal research experience; possess a bachelor's degree; be working towards a research higher degree; or be doctorally qualified.<sup>7</sup>

Numerous recent articles have been published about working as a university administrator<sup>8</sup>, academic research-and-teaching staff member<sup>9</sup>, or casual university teacher<sup>10</sup> in the contemporary Australian university. However, a comprehensive literature search revealed only one empirical study<sup>11</sup> to date examining the roles and working conditions of research-only staff in Australia. A handful more studies have been conducted in the United Kingdom<sup>12</sup>.

The research-only staff study used employment, financial and questionnaire data from a cohort of research-only staff at an Australian university to illuminate the significance of these personnel, and to identify key ways in which research managers can foster research productivity by providing strategic support and development to their 'invisible armies'.

### **Revealing the Invisible Army**

It proved a difficult task to render the university's army of research-only staff visible. An initial query of the University Human Resources database based on the DEST reporting 'research-only' flag resulted in significant underreporting of research-only staff numbers. Records for almost one in three (27.9%) of research-only staff eventually identified were not retrieved using this method, because of misapplied DEST work function flags. Nearly three quarters (73.4%) of research assistants were flagged in the database as 'other' staff rather than 'research-only' staff. Subsequent database queries based purely on job titles gave ambiguous results. For instance, it was unclear whether 'research managers' or 'research programmers' could be defined as research-only staff using the DEST definition<sup>13</sup> using job titles alone.

Eventually, a laborious manual search method was used, where records for all staff with either 'research' job titles or research-only flags were retrieved. Unclear records were then cross-checked using job descriptions or by querying the staff member about their job role. Using this method, 697 research-only staff records were included, accounting for 21.1% of the university's Faculty-based FTE. These 697 research-only staff were engaged on a total of 778 research-only employment contracts, of which 54.6% were general scale casual contracts, 30.3% were fixed-term full-time contracts, and 12.9% were fixed-term part-time contracts. Only 2.2% of the contracts, accounting for 17 staff at the university, were ongoing full-time contracts. The prevalence rates of different types of research-only employment contracts by scale are shown in Figure 1.

Most research projects were documented to employ at least one research-only staff member. Three quarters (73.3%) of the university's research project leaders had employed at least one research-only staff member in the previous 12 months. Half of funded research projects in the previous 12 months had employed an academic research-only staff member, and 68.0% of funded research projects had employed a general research-only staff member. A survey of research project leaders at the university (n = 117) asking for 1-5 ratings of the importance of research-only staff to research productivity yielded an average rating of 4.4 ('important' to 'very important', SD = 1.1)

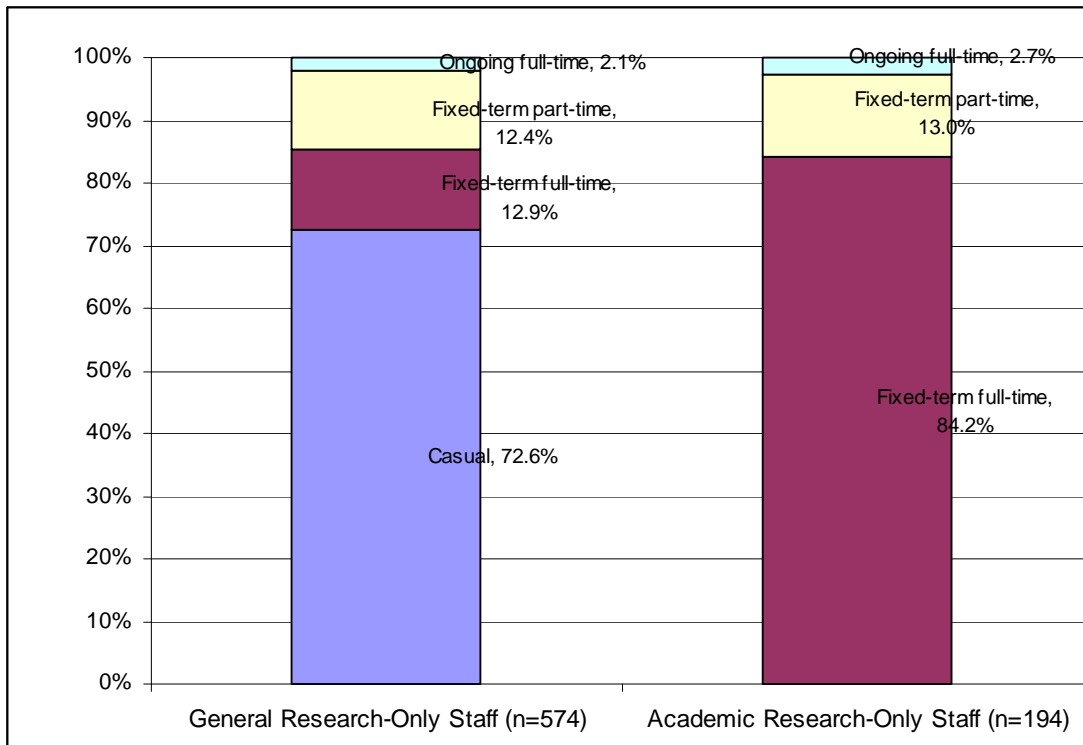


Figure 1. Academic and General Scale Research-Only Staff Contracts by Type

Three quarters (75.0%) of the research-only staff had an employment history with the university prior to their present contract/s. On average, research-only staff had 12.9 previous (non-current) employment contracts with the university. At the extreme end of the distribution, one staff member had 179 previous casual employment contracts with the university, dating back 15 years.

Nearly ninety percent of research-only staff salaries were funded using research project accounts. Over half (56.9%) were sourced from externally-funded research projects (most commonly from national competitive research grant schemes such as the ARC and NH&MRC, but also from industry research). Another 28.8% of salaries came from internal research project accounts. Only 14.4% came from non-project based funds (such as central operating accounts). Research staff salary sources are depicted in Figure 2.

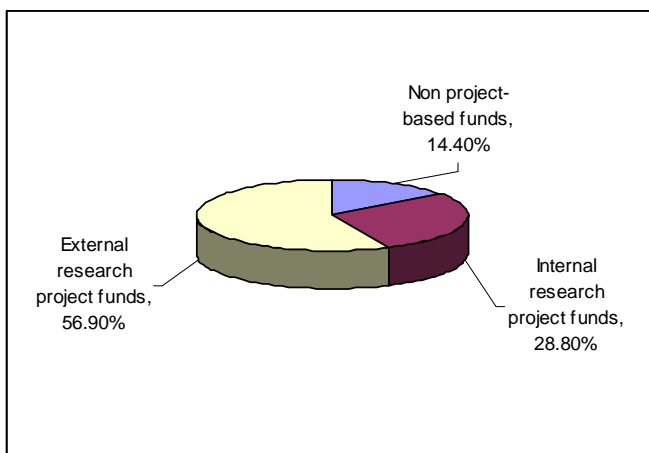


Figure 2. Research-Only Staff Salary Sources

### **The Research-Only Staff Paradox**

The findings revealed an interesting paradox. At the university under study, the research-only staff were ubiquitous and apparently essential to research, yet were also highly casualised and contract-based. The data provided strong evidence of a veritable army of research-only staff. Most research projects employed at least one research-only staff member, and project leaders agreed that research-only staff were very important to their productivity. However, the vast majority of research-only staff were employed on multiple consecutive casual or fixed-term contracts based on soft (grant-based) money.

With employment arrangements like these, benefits such as leave and superannuation, and opportunities for skill development and promotions are jeopardised. The immediate task orientation of research project-based work and competition for funding / further employment can further compromise these benefits. As well as being inequitable, this situation can have serious ramifications for a research staff member's ability to carry out research. For instance, the many general scale staff members in this study who regarded themselves as 'career researchers' rather than 'casual research assistants' were not in a position to undertake core research activities such as apply for grant money or travel to conferences or to conduct research. By virtue of their casualised, contract-based working arrangements, these staff members are also open to intellectual exploitation

The working conditions of research-only staff have strong repercussions for university research productivity. Research-only staff are integral to university research performance, and yet this study suggests that so far, Australian universities have done surprisingly little to support and develop them.

The broader aim of recent moves toward performative funding of universities is to ensure that Australia continues to be well placed in the global knowledge economy. It is therefore imperative that the higher education sector commits to the enhancement of research capacity in the medium to long term. Research capacity building will include the early career teaching-and-research academics and higher degree students already discussed in top-level workforce and research plans, but it also needs to include the invisible army of research assistants, research associates, and research fellows that every university depends upon.

### **Specific Recommendations**

- (1) render Australian research-only staff 'visible and calculable' – ensure that DEST staff classification definitions are clear and that universities adhere to them when reporting;
- (2) commission an Australia-wide study investigating university research-only staff recruitment, employment, retention and development issues, and identifying how research-only staff human resourcing can best be leveraged to enhance Australian research productivity;
- (3) create clear research-only career pathways, whether through a third classification of Certified Agreement, or by including all career research staff on Academic scales (with appropriate position descriptions);
- (4) that the Australian Code for the Responsible Conduct of Research published in 2007 include specific reference to appropriate employment practices and support of research-only staff.

Yours sincerely,



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## Endnotes

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- <sup>2</sup> Department of Education Science and Training. Our Universities: Backing Australia's Future. (Canberra: Department of Education Science and Training, 2005).
- <sup>3</sup> Department of Education Science and Training. Publications - Higher Education Statistics Collections (Department of Education Science and Training, 2007).
- <sup>4</sup> Department of Education Science and Training. Specifications for the Collections: Selected Higher Education Statistics (Canberra: Department of Education Science and Training, 2006).
- <sup>5</sup> J Hobson, G Jones, and E Deane. "The Research Assistant: Silenced Partner in Australia's Knowledge Production?" *Journal of Higher Education Policy and Management* 27, no. 3 (2005): 357-66.
- <sup>6</sup> J Allen-Collinson, and J Hockey. "Capturing Contracts: Informal Activity among Contract Researchers." *British Journal of Sociology of Education* 19, no. 4 (1998): 497-515.
- <sup>7</sup> R Bridgstock, and L Wilss. "Assisting Women Assisting Research: The Professional and Career Development Needs of Education Faculty Research Assistants." Paper presented at the "Women Doing Research" Conference, Gladstone, 24th & 25th November, 2005.
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- <sup>11</sup> Bridgstock and Wilss.
- <sup>12</sup> Allen-Collinson and Hockey; Garnett and Goodall.
- <sup>13</sup> Department of Education Science and Training, Specifications for the Collections.

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