

## ISSUES PAPER

### ESTABLISHMENT OF CONCENTRATIONS OF RESEARCH EXCELLENCE

#### Introduction

Upon his appointment as Vice-Chancellor in 2006, Professor Steven Schwartz expressed in the document “Macquarie@50” his vision for Macquarie to be a research-intensive university. This document states: **“No university can be excellent at everything, but to reach our goal, we need to be world class at some things. Our strategy will be to emphasise our strengths. We will invest in our strong areas and we will also target a number of developing areas, particularly those that build on our history of interdisciplinary research.”**

This strategy was then incorporated into the University’s 2006 – 2008 Research Strategic Plan. First, the University must have a pervasive research culture (Goal1) from which areas of strength can develop and be identified (Goal 2). In 2006 this resulted in steps being taken to identify existing and emerging areas of research strength that could be demonstrated to be world class. These then became the first identified “Concentrations of Research Excellence”, or COREs.

The COREs concept is based loosely on Stanford University’s “Steeple of Excellence”, which are designed to identify research areas that put Stanford “on the map” by first identifying areas with existing international prominence and then attracting the very best researchers to those defined areas. The Steeples become self financing and generate their own momentum of sustained growth.

It is very important to note that a Concentration of Research Excellence is not an entity, and for a given CORE area, appointments may be in a number of different Departments.

#### ***The CORE strategy is a recruitment strategy.***

It is also important to understand that no special conditions are attached to new CORE appointments (other than earmarked start-up support in some cases) – they are identical to the conditions for continuing appointees to non-CORE areas.

We anticipate that within a CORE area, staff will develop cohesive and coherent research programs, which may subsequently be the subject of applications to establish Macquarie University Research Centres (MQRCs). This might also lead to establishment of National (Commonwealth-funded) Centres of Excellence (or their equivalent). The establishment of such Centres is a major validation of the CORE strategy - the recognition by peers that the research undertaken by staff within a CORE area is truly world class.

In 2006 the Vice Chancellor approved the establishment of five CORE areas:

- Ancient Cultures
- Climate Risk/ Ecology and Evolution
- Cognitive Science
- Earth & Planetary Evolution
- Lasers and Photonics

and four “emerging” CORE areas:

- Animal Behaviour
- Functional Proteomics & Cellular Networks
- Quantum Information & Security
- Social Inclusion

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A recruitment program was initiated in mid-2006, with 43 new positions being advertised. Between 2 and 5 new positions were allocated to each CORE area. By the end of 2007, with the exception of two or three ongoing negotiations all of these positions had been filled.

In early 2008 the Vice-Chancellor approved a further investment in the CORE strategy by way of more recruitments. This second generation of CORE areas aimed to identify additional emerging areas of excellence, but also aimed to strengthen the existing CORE areas.

As part of the process to identify where these resources should be placed, the Vice-Chancellor sought submissions from staff. The submissions were reviewed and evaluated by the Deputy Vice-Chancellor (Research) using both the supporting performance data submitted by the staff and data already stored in University databases.

A total of seven new CORE areas were identified and 23 new positions have been allocated to them. A further 20 new positions have been allocated to seven of the existing CORE areas.

The new CORE areas are:

- Emotional Health (Psychology)
- Financial Risk (Accounting and Finance, Economics, Actuarial Studies, Business Law, Applied Finance Centre)
- Language Science (Linguistics, Computing, Centre for Cognitive Science)
- Legal Governance (School of Law)
- Social, Cultural and Political Change and Society (Modern History, Politics and International Relations)
- Neuroscience and Neurosurgery (Australian School of Advanced Medicine, and Philosophy)
- Wireless Telecommunications (Electronic Engineering)

### **How Concentrations of Research Excellence are chosen**

Having identified key researchers for a group with potential for CORE status the excellence of their collective research performance is assessed. This assessment involves addressing the following points:

1. The nominated research area is demonstrably of high quality on an international scale-this could be demonstrated through the peer-review outcomes for the key researchers obtained through assessment exercises such as the RQF trial. Normally it is expected that there would be at least 3 academic staff involved in the proposed CORE area with personal research ratings in the top 25% of their field.
2. There is evidence of a capacity amongst the key researchers to work cooperatively and coherently and that there is clear leadership in the group-this might be demonstrated through participation of the key researchers in a recognised (Divisional, University or national) research Centre, or through a cohesive and coherent program put forward in the submission. Submissions from individual researchers who, though having excellent research track records themselves, have not hitherto engaged with other staff in developing a broader research program, are unlikely to be supported.
3. Current external research income and evidence of potential to attract increased external research income.
4. Evidence of quality publications/outputs (internationally recognised-peer reviewed).

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5. Evidence of exceptional citation performance (for discipline) and other quality indicators for journal impact.
6. Evidence of capacity to attract and complete HDR students.
7. Evidence of capacity to attract Postdoctoral Fellows and other early career researchers.
8. Prestigious Fellowships held by key members and other Esteem Factors.
9. Evidence of socio-economic impact of the key researchers-of engagement with research end-users and knowledge transfer and the ability to project a national and international profile in a coherent research area.

To assist staff in understanding these points, they are expanded upon below:

**Research Quality.** It is absolutely essential that researchers within CORE areas are demonstrably near the top of their research field (at least within the top 25%, as measured by peer-review). As with other points below, *evidence* of peer opinion of performance is vital.

**Evidence of Capacity to Collaborate.** Typically (but not essentially), this involves an existing Centre structure. Both the University's MQRC Scheme and the Research Innovation Fund (MQRIF) are designed to reward clusters of researchers collaborating towards a common goal, with the eventual aim of being competitive under a Commonwealth-funded Centre Scheme. To be successful in such ventures, all such group activity and operation of Centres require effective and efficient leadership.

**Research Income.** It is considered essential that CORE areas can meet the direct costs of their research through external funding. Research income can include competitive external research grants, commissioned research, consultancies, and income from commercialisation activities or foundations etc. Research income attracts infrastructure funding essential for support of the CORE area. This is especially true where a centre is based on the CORE area - research income from consulting and other fully-funded research activities helps provide support for administration/ management of the centre

**Publications.** The important factor here is the *quality* of the publications, not just the quantity. Included in quality are such things as peer review, journal impact, citations, and international collaboration. It is recognised that citation indices vary greatly between disciplines – it is the relative performance (within the discipline) that is assessed.

**HDR Enrolments.** Research training is a key element of any CORE area. The concentration of research excellence into the CORE area - by way of the original key researchers plus the added recruited excellent researchers means that potential HDR students are attracted to the CORE area by the nature of its world class reputation.

The University is committed to supporting the strategy by providing dedicated HDR scholarships to each CORE area. In addition, the CORE areas will attract further scholarships by way of research grants, etc.

**HDR Completions.** CORE areas will be expected to lead the way in meeting the University's in-time completions goals.

**Concentration of Postdoctoral Fellows.** Although the nucleus of a CORE area (prior to the recruitment process) will depend upon a number of key researchers (minimum 3, normally 4-5), both they and the newly-recruited staff are expected to be highly productive researchers. As aspiring world-leaders in their research, they have the

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potential to attract early career researchers, such as holders of prestigious Fellowships (e.g. ARC APFs, ARFs, and QEIs, Future Fellowships) and other less senior Fellowships (ARC APDRFs, MQRF, VCIF).

**Impact.** Academic impact has been dealt with under “publications” above. Members of CORE areas will be expected to attain honours (Esteem Factors such as prizes, editorial roles, etc.) as well as being leaders in research innovation and research outreach activities, particularly where these have international, or at least national, implications.

DVCRO  
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