
Research and Research Training Management Plan 2008 - 2010

Introduction

Research and the training of Research Higher Degree students are core activities within the mission and EDGE Agenda of the University of Tasmania. The stated vision of the EDGE Agenda is that the University of Tasmania will be ranked among the top echelon of research-led universities in Australia and will be a world leader in its specialist, thematic areas. The introduction of an Australia wide system for assessing the quality of Research Performance (Excellence in Research for Australia – ERA) will provide a valuable platform for UTAS to benchmark its research profile in detail both nationally and internationally. The ERA will inform strategy within the EDGE Agenda. Fundamental to meeting the EDGE agenda in research is the development of a culture that rewards excellence.

At present we can benchmark broadly against other Australian universities using national data (Table 1). While we compete well with the GO8 in some areas we have lost our position in ARC grant income and publications. We have to accept that every research led university has been endeavouring to increase its performance indicators and if we are to stay competitive we must do the same. Bibliometric and grant income parameters will almost certainly play a major role in the ERA. All universities will be focussed on increasing quality publication output and increasing grant income in preparation for the ERA.

Table 1a: UTAS Ranking in National Performance Indicators, Normalised by Research Staff

INDICATOR	1999	2000	2001	2002	2003	2004	2005	2006
ARC Income	8	9	4	11	11	7	15	16
NH&MRC Project grant income	11	10	10	11	20	12	16	15
Australian Competitive Grants	7	10	7	7	8	7	7	9
Other Public Sector Funding	1	4	1	2	11	9	9	9
Industry and other income	16	17	16	22	28	22	20	4
CRC Income	14	4	3	3	2	4	7	4
Publications	13	11	9	15	15	14	25	27

Table 1b: UTAS Ranking in Research Funding from Commonwealth, Normalised by Research Staff

INDICATOR	1999	2000	2001	2002	2003	2004	2005	2006
Research Training Scheme			8	8	4	3	3	5
RIB grant allocation	14	12	9	10	8	6	6	7
Institutional Grants Scheme			9	9	8	8	9	8
APA allocation (Scholarships)		11	10	11	8	7	8	8

Although we have slipped in the rankings (Tables 1a & 1b) over the past 8 years, grant income from both competitive and other sources has grown, as have publications and RHD load (Figure 1). However, overall we have slipped in competitive funding. The Faculty of Science, Engineering and Technology and the Faculty of Health and the Menzies Institute have sustained consistent upwards trends in most forms of income while the other Faculties have shown less consistent trends (Figure 2). Some parts of the University have grown significantly in terms of their income per staff member in the past three years, for example CODES, TIAR and the Menzies Research Institute, while others have maintained good growth, for example Psychology, Zoology and TAFI in the Faculty of Science, Engineering and Technology and Rural Health in the Faculty of Health. An analysis of the data indicates that while areas of excellence within the University are steadily enhancing their research profile, others are under-performing. We must increase all categories of research income. An internal Peer Review system for competitive grant applications has been established and will be further developed to support staff in their endeavours to win funding.

Scholarly publications either in refereed international journals or books and monographs published by leading publishing houses are fundamental to growing the research reputation of the University. As Figure 1 shows, overall output of publications has grown. A more detailed analysis by Faculty is shown in Figure 3 and Table 2. UTAS began an analysis of the quality of research publications in 2005, with the introduction of the Research Quality Index (RQI) exercise. The results of the RQI were applied in the 2007 and 2008 budget models and have helped to raise the understanding amongst the academic community of the changing research assessment environment. In Science, Engineering, Health and the Social Sciences, the existence of citation indices enables quality assurance. It is likely that the ERA will employ citations in the assessment of some disciplines, consequently in future we will undertake a more detailed analysis of quality and reward excellence.

As indicated above, RHD load has grown over the last 8 years; however completions are not reflecting the increase in load (Figure 1). While one expects a lag in completions relative to increasing load, that is not evident from the data in Figure 1. Overall the University has an average attrition rate of 25%. This is an unacceptable level. A detailed analysis of attrition rates by School will be undertaken to determine the exact levels of withdrawals and the underlying reasons. We will then put in place policies to address any problems and ensure that a higher proportion of our RHD students complete within a reasonable timeframe.

The establishment of five University Centres/Institutes to grow excellence occurred between 1988-1998. These are the Centre for Ore Deposit Research (CODES) founded in 1989, the Institute for Antarctic and Southern Ocean Studies (IASOS) founded in 1989, the Menzies Centre for Population Health Research founded in 1988 and becoming the Menzies Research Institute in 2004, the Tasmanian Aquaculture and Fisheries Institute (TAFI) founded in 1998, and the Tasmanian Institute for Agricultural Research (TIAR) founded in 1996. Both TIAR and TAFI are joint ventures with the State Government. All are generally performing well but there is scope for enhancing inputs and outputs. Some institutes are already subject to regular review, however all institutes should be subject to triennial external review.

The University of Tasmania has a number of research centres based in Faculties. These include the Australian Centre of Excellence in Food safety, the Australian Centre for Research on Separation Science (ACROSS), the Tasmanian Law Reform Institute, the Tasmanian Institute of Law Enforcement Studies (TILES), the Centre for Marine Science, the Centre for the Environment, and the Centre for Colonialism and its Aftermath. As with the Institutes listed above, these centres are subject to regular review through the five year cycle of School/Institute reviews.

The University has significant commitments to six Cooperative Research Centres (CRCs): the Antarctic Climate and Ecosystems, Seafoods, Bushfire, Forestry, Sustainable Tourism, and Smart Internet Technology. UTAS is also involved in a national housing research initiative – the Australian Housing and Urban Research Institute (AHURI). These provide valuable national alliances that strengthen the University of Tasmania's research profile.

In 2004, the University of Tasmania identified thematic areas in which it planned to enhance and further research excellence; these map onto the national research priorities and into the specific needs of Tasmania:

- Antarctic and Marine Studies
- Community, Place and Change
- Environment
- Frontier Technologies
- Population and Health
- Sustainable Primary Production

The University has enhanced these thematic areas by the recruitment of outstanding senior researchers in the Quantum Leap initiative and plans further strategic appointments as well as providing financial support to nurture rising stars within the University. While marine and Antarctic science are areas of strength within the University, we have yet to fully capitalise on this asset because the research is spread across various schools and institutes. Plans are well developed for the establishment of an Institute for Marine and Antarctic Studies (IMAS) in collaboration with the State Government that will provide a flagship for these disciplines and will build on and strengthen collaborative relationships with the CSIRO and the Australian Antarctic Division. IMAS will more effectively enable national and international collaboration in marine and Antarctic research.

Within the EDGE Agenda priorities the following are the prime goals for research and research training:

Priority A: Fully embed a high performance culture

- Develop and market programmes to attract and retain high quality RHD students.
- Enhance research profile by strategic appointments and identifying and nurturing staff with international research potential.
- Attract internationally renowned visiting fellows.
- Develop a culture that recognises, encourages and rewards excellence.

Priority B: Create and implement a distinctive UTAS teaching and Learning model

- Develop a programme of generic training for RHD students that will provide essential skills enabling them to more successfully develop their future careers.

Priority C – Further strengthen existing UTAS institutes, centres and groups and identify new flagship opportunities.

- Establish an entity for Marine and Antarctic Research.
- Strategically strengthen areas of research excellence and identify and develop new areas of research strength.
- Critically evaluate existing institutes and centres.
- Investigate options for developing areas of critical mass to enhance research profile.

Priority D – Strengthen relationships with UTAS's communities including the State Government.

- Identify initiatives within the Partnership Agreement to build on research strength and commercialisation activity.
- Develop greater knowledge transfer and enterprise to the community.

UTAS within the State, National and International Arenas

UTAS has the advantage of being the sole university in the State and consequently is uniquely positioned for the development of close and productive relationships with the State Government. The recently signed new partnership agreement has identified specific areas for immediate action including IMAS. Well established ongoing relationships involve TIAR, TAFI, the Housing and Community Research Unit, the Menzies Research Institute, TILES, and the Tasmanian Law Reform Institute.

There are, however, disadvantages to being the sole university in the State. There is no competition, which engenders a resistance to change and innovation. UTAS must look to other universities in Australia and where it is beneficial, develop collaborations that will strengthen research. Importantly we may need to reconfigure grouping in disciplines to provide critical mass and enhance profile both nationally and internationally. The proposed Institute for Marine and Antarctic Studies (IMAS) is an example of this type of initiative.

Climate change and how Australia will adapt to it is now high on both the State and Federal Government agendas. The State Government has established Climate Futures Tasmania that focuses on small-scale impacts in the State to provide information to stakeholders (farming and fishing industries) that will inform strategy. The University is involved in this initiative through the Antarctic Climate and Ecosystems CRC and its research programmes in TIAR, TAFI and schools in the Faculty of Science, Engineering and Technology. UTAS must also position itself to be a major player in Federal climate change initiatives. Climate change and its impacts are not solely the domain of science and engineering but encompass social science and law and require a cross-disciplinary approach. We must facilitate cross-disciplinary research not only in addressing climate change but in other areas such as tourism and water where opportunities arise.

While the University has worked hard to foster relationships with State industries, particularly in agriculture and health, it must further strengthen and seek new relationships with multi-national industries with the aim of increasing its contract research income and intellectual property. There are also opportunities for commercialisation and spin-out that UTAS must better harness. The current commercial income base is too low for a university that has ambitions to rank with the Group of Eight Universities that have well developed portfolios in this area (see Table 1). Increasingly universities must be seen to engage with industry and participate in knowledge transfer and enterprise.

The Research Quality Framework (RQF) initiated by the Howard Government forced the university sector to develop appropriate research groupings and databases. While the RQF has now been abandoned and will be replaced by the Excellence in Research for Australia (ERA) by the new Rudd Government, UTAS has learned much from the RQF exercise. It has demonstrated clearly where our strengths and weaknesses lie and importantly shown that UTAS has an excellent research data management system that positioned it well ahead of other universities. The exact metrics and methodologies for the ERA have yet to be announced. It is likely that the ERA will learn from the UK Research Excellence Framework (REF) that replaces the Research Assessment Exercise that has operated successfully for many years in the UK. We can only speculate, though grant income, RHD completions and citations are likely to be among the major metrics, certainly in science, engineering and health. In the lead up to the ERA we must increase our success in these areas and develop strategies that enhance citations. For example, by publishing in good international journals read by scholars in North America and Europe and by maintaining a digital repository at UTAS. There is strong evidence that the latter significantly increases citations.

Growth in RHD load is essential. The 2005-2007 Research and Research Training Management Plan set a growth target of 60% by 2010. Our competitors among other research led institutions in Australia have similar targets. Thus we are competing within the same pool both nationally and internationally. Ours is an ambitious target that will require considerable effort across the institution. We will need to market ourselves much more effectively. High profile institutes and schools with good critical research mass attract students. The provision of a good graduate generic training programme and more rigorous performance management are crucial to making a PhD training more attractive to prospective students. Having attracted students here we need to retain them and ensure that they complete within a reasonable time by providing appropriate support and encouragement. High quality supervision from active researchers in well-resourced research groupings is fundamental to achieving this.

International alliances play an important role in the research reputation of universities. UTAS already has a number of well established formal international arrangements, for example between TIAR and the Malaysian Agricultural Research and Development Institute, and through the International Antarctic Institute with universities in Europe, North America and New Zealand.

Implementation

- Establish budget algorithms that recognise and reward excellence in research.
- Target areas of excellence for growth and investment.
- Establish national and international leadership in key thematic areas by following strategies that enable critical mass and the development of flagships.

Johanna Laybourn-Parry
April 2008

Figure 1. Total grant income, publications and RHD load and completions 1999-2006

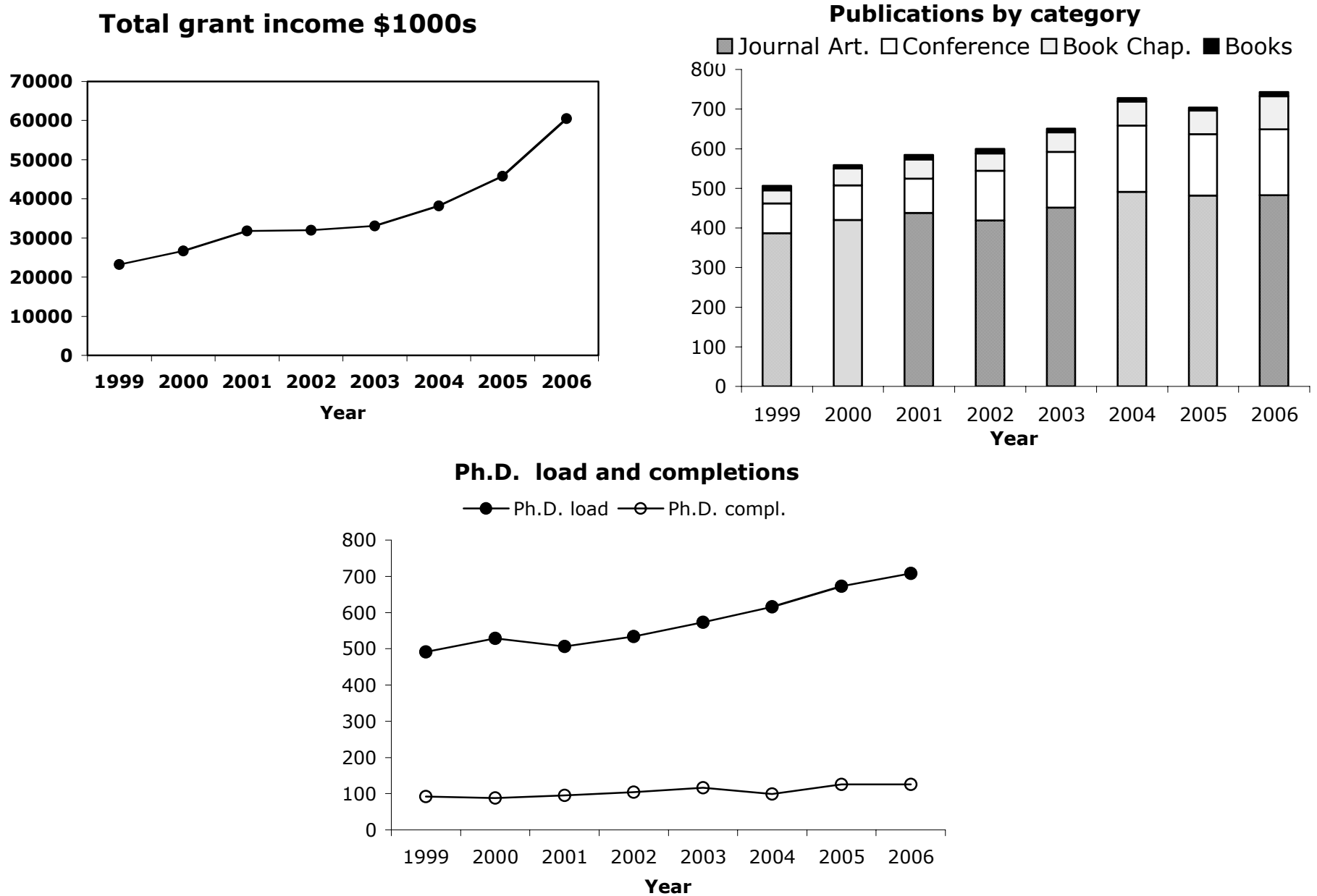


Figure 2. Total and grant income by category in all Faculties between 1999-2006. Category 1 – Competitive grant income (ARC, NH&MRC); Category 2 – Government and other; Category 3 – Industry and other. Note difference in vertical scale values.

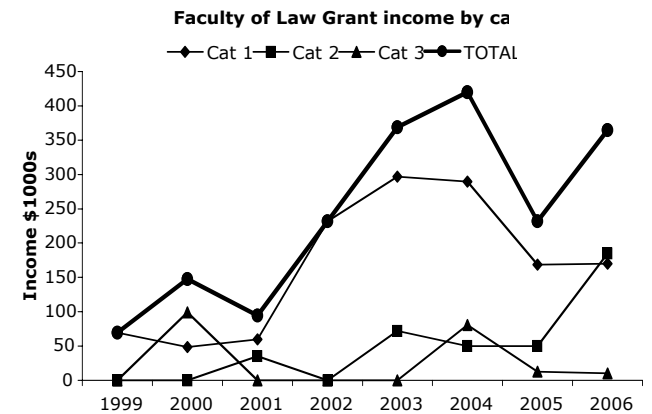
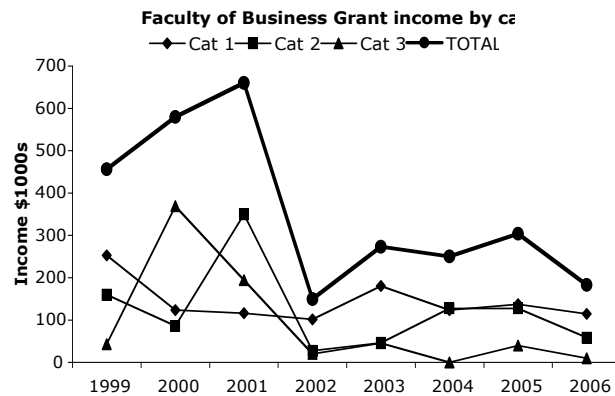
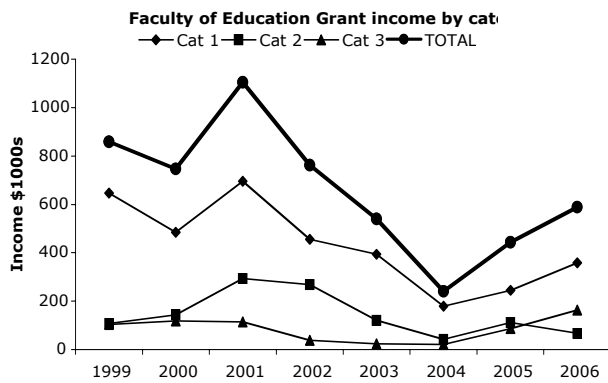
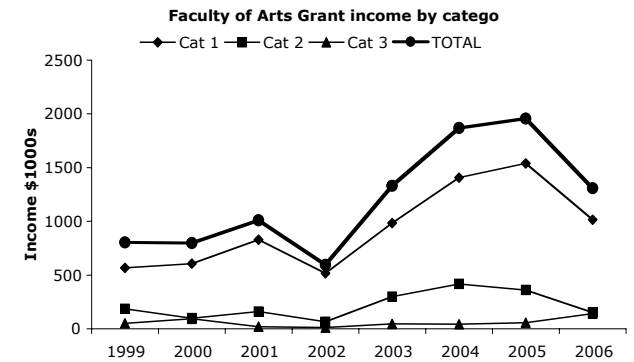
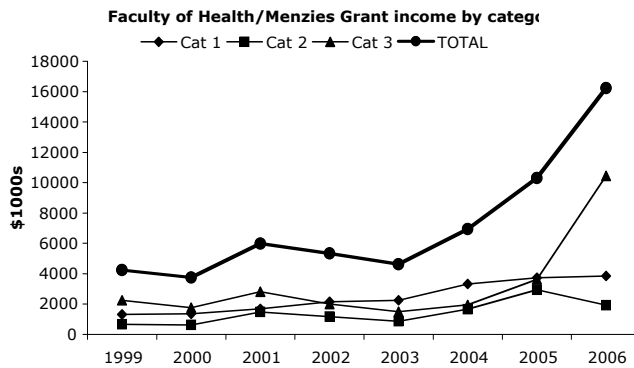
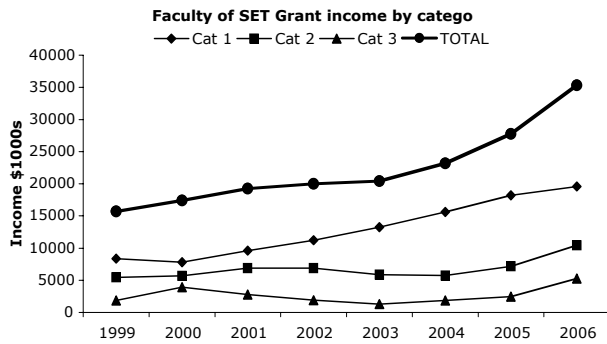


Figure 3. Publications per head between 2004-2006 by School/Institute in the Faculties of SET, Arts, Business and Health Science (numbers of publications, not weighted)

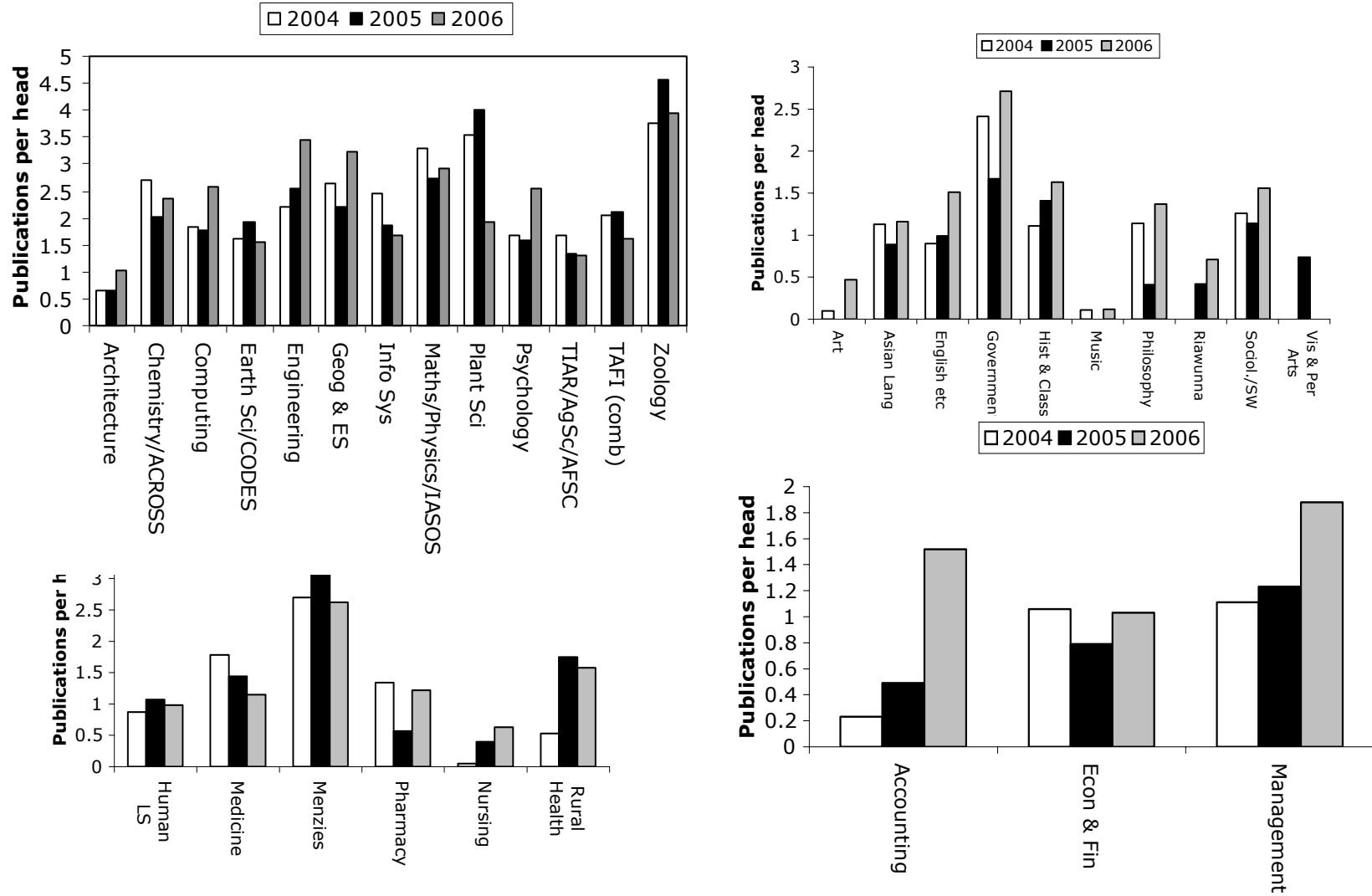


Table 2. Publications per member of staff in Law and Education between 2004-2006.

YEAR →	2004	2005	2006
Education	1.26	1.11	1.52
Law	0.94	1.16	1.21

Priority A: Fully embed a high performance culture**Instil an expectation of high achievement in students and staff, and provide the means for this high achievement.**

Initiative/Target	Outcome	Priority	Responsibility	Budget	Date
1. Increase competitive grant income from ARC/NH&MRC and other sources through internal peer review processes, development of grantmanship and incentives.	1. <ul style="list-style-type: none"> • Comparability in grant income per capita with the GO8. • By 2010 competitive grant income per capita comparable to GO8. 	H	Pro Vice-Chancellor Research Deans & HOSs	C	2010
2. Increase income from commercial sources supporting high quality research through increased interface with industry and more informative and encouraging procedures for staff, for example UTAS Business Competition.	2. <ul style="list-style-type: none"> • A commercial income portfolio with a dominance of contract research over consultancy. • Increase in per capita commercial income to a level comparable with the GO8 by 2010. • Enhance knowledge transfer and enterprise. 	H	Pro Vice-Chancellor Research Deans & HOSs	A	2010
3. Encourage publication of peer reviewed articles in high quality international journals and books/monographs with top quality international publishing houses by higher reward in UTAS research funding algorithm.	3. <ul style="list-style-type: none"> • Increased citations – this may be an important metric in ERA. • Increased national and international profile for UTAS researchers. 	H	Pro Vice-Chancellor Research Deans	A	2009 and ongoing
4. Encourage staff to deposit their publications in a UTAS digital repository. Mandate deposition initially for 2007 and then ongoing and retrospective.	4. Increased citations. Positions UTAS for ERA.	H	Pro Vice-Chancellor Research Librarian	C	2008 onwards

Initiative/Target	Outcome	Priority	Responsibility	Budget	Date
<p>5. Increase internal funding for research through IRGS, with 50% for Early Career Researchers (ECR). Establish a competitive fund to support attendance at international conferences. Establish more rigorous reporting from grant recipients to ensure and monitor value from investment.</p>	<p>5.</p> <ul style="list-style-type: none"> • ECRs better supported in developing their research profile. • Increased success for ECRs in obtaining external funding. • Engender greater accountability. • Will assist in positioning UTAS for ERA. • Greater international profile and networking for UTAS through showcasing research at international conferences. 	H1	<p>Pro Vice-Chancellor Research</p> <p>Planning and Resources Committee?</p>	C \$1M per annum	2008 onwards
<p>6. Strengthen areas of research excellence through strategic appointments of New Stars and funding support for Rising Stars.</p>	<p>6.</p> <ul style="list-style-type: none"> • \$12.5 M for new stars over 5 years • \$2.5 M for rising stars over 5 years • Increased research performance of existing star researchers and improved retention of key staff. 	H1	Vice-Chancellor	C	2008
<p>7. Increase RHD load and successful completions by strategic targeting of areas of excellence in research and the provision of good pastoral care and generic training for RHD students.</p>	<p>7.</p> <ul style="list-style-type: none"> • Increased critical mass in areas of research excellence. • Increased income through RTS. • Enhanced national and international profile. 	H1	<p>Pro Vice-Chancellor Research</p> <p>Dean of Graduate Research</p>	C	2008 and ongoing
<p>8. Introduce <i>viva voce</i> examination of Ph.D.s across the University.</p>	<p>8.</p> <ul style="list-style-type: none"> • Greater rigour in RHD training. • Increased efficiency in the 	H	Dean of Graduate	C	2008

Initiative/Target	Outcome	Priority	Responsibility	Budget	Date
	examination process. <ul style="list-style-type: none"> • Improved international perception of quality. 		Research		
9. Position UTAS for the ERA to enable high scores and increased reputation.	9. <ul style="list-style-type: none"> • Anticipate the metrics to be used in each discipline and address areas that require support. • Areas of research excellence identified in RQF to be further supported and strengthen via points 1- 8 above. 	H1	Pro Vice-Chancellor Research. DVCP Deans	C	2008 ongoing

Priority B: Create and implement a distinctive UTAS teaching and learning model

Develop a UTAS student experience, learning outcomes and graduate profile and ensure contemporary knowledge and skills, generic capabilities and an experience of place, environment and community that is distinctly Tasmanian.

Initiative/Target	Outcome	Priority	Responsibility	Budget	Date
1. Deliver a structured programme of compulsory generic training for RHD students.	1. <ul style="list-style-type: none"> • Better equip RHD graduates for the job market. • Improved quality of the RHD experience. 	H	Dean of Graduate Research	C	2009
2. Establish a competitive conference fund for RHD students that will enable them to make one presentation at a national or international conference during their training. Schools will be expected to match funds.	2. <ul style="list-style-type: none"> • Enhance the training and experience of RHD candidates. 	H	Dean of Graduate Research Deans & HOS	C	2009

Priority C: Further strengthen existing UTAS institutes, centres and groups and identify new flagship opportunities
Reassess and renew the focus of UTAS research strengths and opportunities; develop the opportunities that arise as a result of the integration of UTAS and the Australian Maritime College.

Initiative/Target	Outcome	Priority	Responsibility	Budget	Date
1. Build on existing system for external review of University institutes and centres. Reviews should occur triennially	1. <ul style="list-style-type: none"> • Provides international and national perspective and benchmarking of institute or centre. • Research College Board to receive reports every two years on prospective plans of institutes and centres. 	H	Pro Vice-Chancellor Research Institute or Centre Directors	A	2008 ongoing
2. Establish and grow an Institute for Marine and Antarctic Studies (IMAS).	2. <ul style="list-style-type: none"> • Will achieve critical mass in the discipline. • Enhanced international and national profile. • Greater opportunities for increased research activity (grants, publications, esteem). • Enhanced alliances with Australian Antarctic Division and CSIRO. • Explore opportunities for national centre for Marine Science with other universities and CSIRO. 	H1	Pro Vice-Chancellor Research Dean of SET Director of IMAS	C	2008 ongoing
3. Explore potential for substantive flagship institutes with a cross-disciplinary focus in research and teaching, for example in	3. <ul style="list-style-type: none"> • Establish at least one Institute by 2010. 	M	Pro Vice-chancellors Research and	A	2010

Initiative/Target	Outcome	Priority	Responsibility	Budget	Date
conservation and natural resource management, forensic science, tourism.			Teaching and Learning Deans		
<p>4. Continue support and research growth (income, publications, esteem) in the following key areas:</p> <ul style="list-style-type: none"> • Australian Centre for Research on Separation Science. • Tasmanian Institute for Law Enforcement Studies. • Riawunna • Community, Place and Change • Australian Innovation Research Centre 	<p>4.</p> <ul style="list-style-type: none"> • Increased grant income from all sources. • Increased quality publications. • Enhanced national and international profile. 	H	Pro Vice-Chancellor Research Directors of Centres Deans	A	2008 ongoing
<p>5. Increase grant income, publications and RHD load in the following Institutes as follows:</p>	<p>5. CODES to achieve refunding and to increase grant income from all sources by 15% and publication output from an average of 1.64 per head (2004-2006) to 2.5 per head by 2010.</p> <p>Menzies Research Institute to increase grant income from all sources by 15% and to maintain publication output of around 3.00 per head by 2010.</p> <p>TIAR to increase grant income from all sources by 15% and to increase publication output from an average of 1.1 per head (2004-2006) to 2.5 per</p>	H1	Pro Vice-Chancellor for Research Directors of Institutes	A	

Initiative/Target	Outcome	Priority	Responsibility	Budget	Date
	<p>head by 2010.</p> <p>TAFI to increase grant income from all sources by 15% and to maintain publication output at around 3.25 per head by 2010.</p> <p>IASOS to increase grant income by 15% and increase publication to 3.0 per head by 2010</p>				
<p>6. Explore opportunities for collaborative and cross-disciplinary research with staff at AMC and staff in SET.</p>	<p>5.</p> <ul style="list-style-type: none"> • Increased grant income and publication output for AMC. • Integration of AMC into the research community of UTAS. 	H	<p>Pro Vice-Chancellor Research</p> <p>Dean of SET</p> <p>Director AMC</p>	A	2008 ongoing

Priority D. Strengthen relationships with UTAS' communities, including State Government.

Further develop relationships with the Tasmanian State Government and UTAS' communities of interest: seek collaborations that enhance UTAS' distinctiveness and provide unique opportunities for all stakeholders.

Initiative/Target	Outcome	Priority	Responsibility	Budget	Date
1. Implement research and commercialisation initiatives outlined in the Partnership Agreement signed in 2008.	1. Closer relationship with Departments in the State Government that will lead to further initiatives and benefits for both parties.	H	Pro Vice-Chancellor Research	C	2008 ongoing
2. Through TIAR and TAFI build further on good relationships with agricultural and fisheries industries in Tasmania.	2. <ul style="list-style-type: none"> • Increased opportunities for funding. • Greater knowledge transfer to the commercial sector. • Increased research outputs. • Increased opportunities for training RHD students. 	H	Directors of TIAR and TAFI	A	2008 ongoing
3. Through the Menzies Institute and the Faculty of Health further develop relationships with Health Authorities in Tasmania.	3. <ul style="list-style-type: none"> • Increased UTAS contribution to policy in Tasmania. • Enhanced research outputs. 	H	Dean of Health Director of the Menzies Inst.	A	2008 ongoing
4. Enhance relationship with Housing Tasmania and the Australian Housing and Urban Research Institute (AHURI).	4. <ul style="list-style-type: none"> • Increased income and publications 	M	Pro Vice-Chancellor for Research	C	2008 ongoing

Priority E: Maximize support for core activities by aligning resources and improving business services. Optimise financial resources and physical infrastructure to support core activities and strategic priorities; optimise human resources and support systems and staff infrastructure to support core activities in strategic priorities

Initiative/Target	Outcome	Priority	Responsibility	Budget	Date
1. Review procedures for student progression, supervisor performance and quality assurance in the Graduate Research Office.	1. <ul style="list-style-type: none"> • Reduced paperwork and increased office efficiency. • Better tracking of student performance and intervention procedures. • Reduced attrition rate. • Proper tracking of supervisor performance. Identifying where professional development is required. 	H	Dean of Graduate Research	B	2008 ongoing
2. Develop and implement policy on procedures and deadlines for grant application submissions to the Research Office.	2. <ul style="list-style-type: none"> • Enhanced quality assurance ensures that applications are not disqualified due to technicalities thereby injuring UTAS reputation and wasting the time of researchers. • Increased efficiency within the Research Office allowing the processing of growing numbers of grant applications. 	H	Pro Vice-Chancellor Research Director of Research Office	A	