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National Teaching Fellowship Report

UNDERGRADUATE RESEARCH EXPERIENCE PROGRAMS IN AUSTRALIAN UNIVERSITIES

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Note: the information contained in this report is considered accurate at the time of publication. However the report details a constantly changing scenario and details of programs may have changed since publication.



Executive Summary

An investigation of the extent and nature of practice in undergraduate research experience programs in Australian universities was carried out as part of the ALTC National Teaching Fellowship of Angela Brew.

Investigation initially took the form of internet searches of the websites of 39 Australian universities, and 31 external bodies funding undergraduate research. This was followed up with emails and telephone conversations with over 100 university academics and administrators, and representatives from external funding bodies.

Information was collected on the history, scope, and extent of programs; the disciplines of operation; program structures, aims and outcomes; arrangements for academic engagement and support, rewards and recognition; funding and perceived challenges of each program. A thematic analysis was then undertaken.

It was found that:

- undergraduate research experience programs are widespread in Australian universities, being present in some form in 23 of the 39 universities surveyed
- programs operate in a number of disciplinary areas; however, there is a strong emphasis on the STEM (science, technology, engineering, and mathematics) disciplines
- programs tend to target an elite niche of the undergraduate population in universities, and predominantly focus on senior undergraduates (third year and above), rather than junior undergraduates (first and second year)
- the primary aim of the programs is to maintain and grow a pipeline of undergraduates progressing into Honours and research higher degree programs. The learning value of the programs is not emphasised or evaluated
- the majority of programs are recent and growing initiatives of universities from the mid-2000s onwards
- programs operate on several different administrative levels and structural models; however, there is a trend towards creating institution funded schemes offered on a university-wide basis, rather than on a divisional basis
- student numbers in the programs, though small in comparison to national student enrolments, are still significant (1500-2000 students per year) and increasing in some programs
- outcomes of most programs for students are yet to be formally evaluated. The undergraduate student experience in programs has not yet been measured
- funding is the primary challenge for the future of the programs, both in terms of sustainability and growth. Governmental and research council funding is lacking or entirely absent in most programs
- academic supervisors receive little financial or formal academic recognition from central university administrations or research funding bodies for their role in the programs, and the impact of undergraduate research within their own research projects is currently unknown.



Introduction

In 2009 an investigation of undergraduate research experience programs in Australian universities was carried out under the auspices of the ALTC National Teaching Fellowship of Professor Angela Brew. The overall aim of the fellowship was to enhance student engagement in learning through supporting the development, in Australia, of undergraduate research and inquiry.

The fellowship sought to heighten awareness of critical issues involved in engaging undergraduate students in research both within the curriculum and in research engagement outside the curriculum through a series of events for academics and university leaders and managers. A team of national and international experts collaborated to develop understanding of undergraduate research in Australia and internationally and link the fellowship to other projects on related themes. Study tours overseas enabled the identification of resources and information about what was happening in other countries. A website was established at: <http://www.undergraduateresearchAustralia.com>, containing information on undergraduate research and inquiry, and including resources to develop practice in the Australian context. An extended network was developed and a newsletter (*Undergraduate research news Australia*) established to provide a medium for sharing ideas and initiatives on an ongoing basis. Further information about the fellowship is found in its final report (Brew, 2010).

One of the stated key outcomes of the fellowship was to identify national needs by reporting on the current state of undergraduate research programs in Australia, and sources of funding Australia-wide. This is the focus of the current report.

A driving force for the investigation was the apparent lack of practice within Australian universities as judged by the absence of any mention of this area of activity in two major federal government reviews of research and teaching in Australian higher education; the Bradley Report: *Review of Australian higher education* and the Cutler report on research and innovation: *Powering ideas: An innovation agenda for the 21st century* (Commonwealth of Australia, 2008; Commonwealth of Australia, 2009a). In the context of concerns about educating the next generation of academics expressed in the federal government's response to the Bradley review (Commonwealth of Australia, 2009b), it was noted that there had been growing interest in developing this area of activity overseas, for example in the UK (Healey & Jenkins, 2009). The long history in the practice of engaging undergraduate students in research experience programs in the United States and the willingness of American research funding bodies to support such research provided exemplars of what could be achieved. The absence of any information about what was happening in Australia provided the impetus for the research reported here.

The aim of the investigation was to identify undergraduate research experience programs across Australia. Specific objectives were:

- to examine the proposed aims of programs and their outcomes
- to assess the size of programs offered by Australian universities and external bodies, to whom they are targeted, and to what purpose
- to investigate levels of engagement, supervision and financial support to students
- to examine the nature and extent of the funding available, both university and non-university, for these programs
- to identify the challenges faced in the past, present, and future.



For the purposes of this investigation, undergraduate research experience programs were those where:

- students were enrolled at undergraduate level in an Australian university
- students were engaged in short-term formally advertised and supervised research and inquiry projects
- students received remuneration for the time spent researching
- research was conducted outside the formal curriculum.

These criteria excluded unpaid voluntary research work, informal agreements between staff and students, research activities carried out within coursework, and honours research projects. They also, of course, excluded postgraduate research work.

Undergraduate research experience programs in Australian universities were initially researched through internet searches of the websites of 39 Australian universities. When it became evident that there were a number of external bodies that were funding undergraduate research, internet research was also carried out to investigate 31 such organisations. Programs were often hard to find, hidden within university websites, and there were clearly more programs in existence than was apparent from a cursory glance of such websites. This research was followed up with emails and telephone conversations with over 100 university academics and administrators, and representatives from external funding bodies.

Although the report presented here does include quantitative data, in light of the extensive range and size of data gathered, our approach has been to adopt a primarily thematic analysis, focusing on the key areas outlined in the project objectives. Due to time constraints and the unexpected scope of the data, this analysis has been limited to the 39 Australian universities, and does not include an analysis of those schemes offered by external funding bodies. For a list of all currently identified paid undergraduate research programs funded by external bodies see Appendix 3: External Funding.



Thematic Analysis

History, scope and extent of programs

Our investigations have revealed that undergraduate research experience programs are widespread and increasingly prevalent in Australian universities. The following key observations were made:

- Of the 39 Australian universities examined, 23 had at least one undergraduate research experience program.
- Ninety four programs were funded by 23 universities in 2009 with an approximate total number of 1500 undergraduate students across Australia. Of these 94 programs, 10 were operated on a university-wide basis, whilst the remainder were confined to particular university faculties, departments, schools or research centres.
- The potential for upwards of 2000 undergraduate students to have undertaken a research experience program across Australia is indicated by the identification of another 34 programs funded by 32 external funding bodies (government, research companies, charities).
- Typically, but not exclusively, programs run in vacation times.

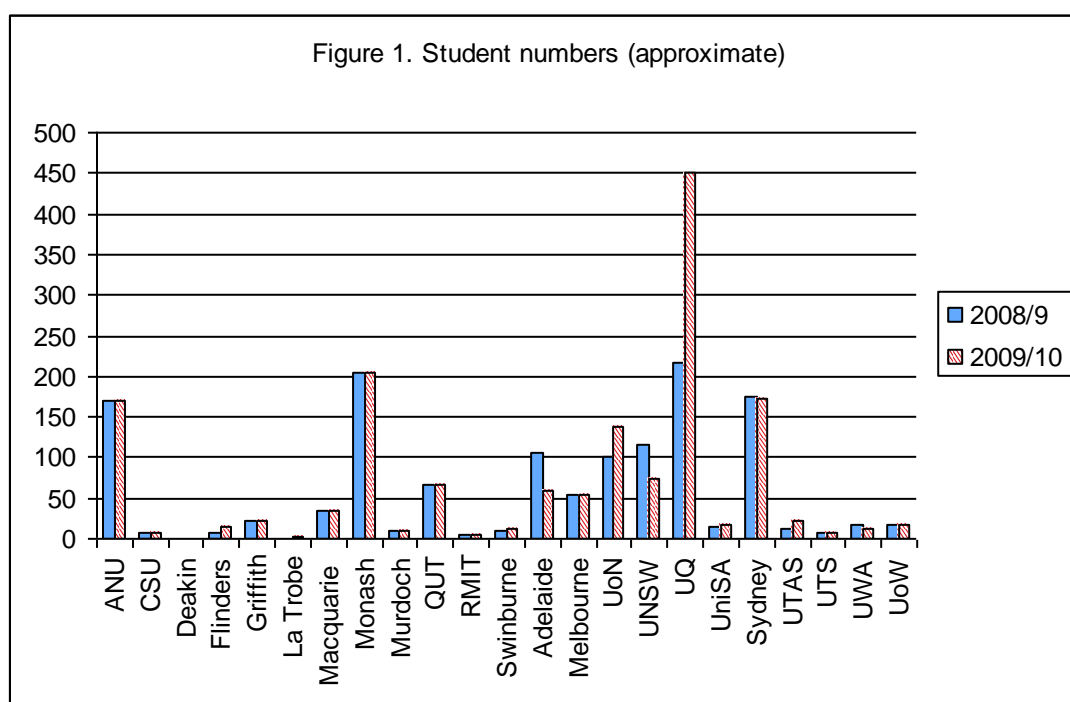
The data clearly indicates that undergraduate research experience programs have an established presence in Australian universities, and that a significant number of undergraduates are engaged in a dedicated program of research and inquiry. Whilst the actual number of programs is not representative of how actively a particular university is supporting and initiating undergraduate research experience, the number of overall participants within each program can provide some indication. Figure 1 highlights the concentrations of students who participated in undergraduate research experience programs commencing in the years 2008 and 2009. The members of the Group of Eight (Go8) universities, excepting The University of Western Australia, have the highest concentration of student numbers. Nevertheless, two universities outside of the Go8 reported similarly high numbers of participants, demonstrating that the importance and potential of undergraduate research experience programs has been tacitly recognised amongst many universities outside of the Go8 grouping.

From the data available concerning when these undergraduate research experience programs were first established, it is clear that university departments and faculties have conducted small-scale programs from as early as 1990. These initiatives continued to be established in small numbers throughout the 1990s and early 2000s. However, universities only began to invest in these programs on a larger scale from the mid 2000s: the year 2008 alone saw the establishment of nine new programs, including the largest program in Australia at The University of Queensland. Indeed, those programs which are available on a university-wide basis and receive central funding from the university, rather than from a faculty or department, have only been established in the last five years, usually in the context of centralising the pre-existing small-scale programs into a homogenous scheme.

This apparent increased interest in engaging undergraduates at this time invites speculation as to the reasons. There are a number of possible drivers. The Boyer Commission report (Boyer Commission, 1999) on educating undergraduates in the research university was clearly influential in universities such as The Australian National University, for example, that were working to benchmark with leading overseas institutions. While the Boyer Commission report cannot be said to be wholly responsible, it is noticeable that



considerable interest in strengthening the relationship between teaching and research has been influential in Australian universities since its publication. Also influential in developing this relationship are changes to the ways in which doctoral work is funded with the introduction of the Research Training Scheme in 2001-02. This may have led to concerns that only some universities would be funded for research and the need to ensure that adequate numbers of undergraduates progress to PhD study. We now know that some 65 per cent of doctoral students are over 30 years of age¹. This means that the majority of undergraduates, even those that pursue honours, are choosing to go into the workforce rather than progressing to postgraduate study. This is borne out by the objectives of the undergraduate research experience programs, the majority of which are focused on encouraging students to progress to honours and on to PhDs. It could also be argued that the interest in developing undergraduate research is, in part, also driven by concerns with student engagement, and, more particularly, student dropout. Data from the Australian Survey of Student Engagement (AUSSE) has been reported to suggest that approximately one third of students consider dropping out in their undergraduate years (ACER, 2009). Undergraduate research is known to be a key factor influencing student engagement (Kuh, 2008) and may be a response to concern with keeping the brightest students.



Disciplines of operation

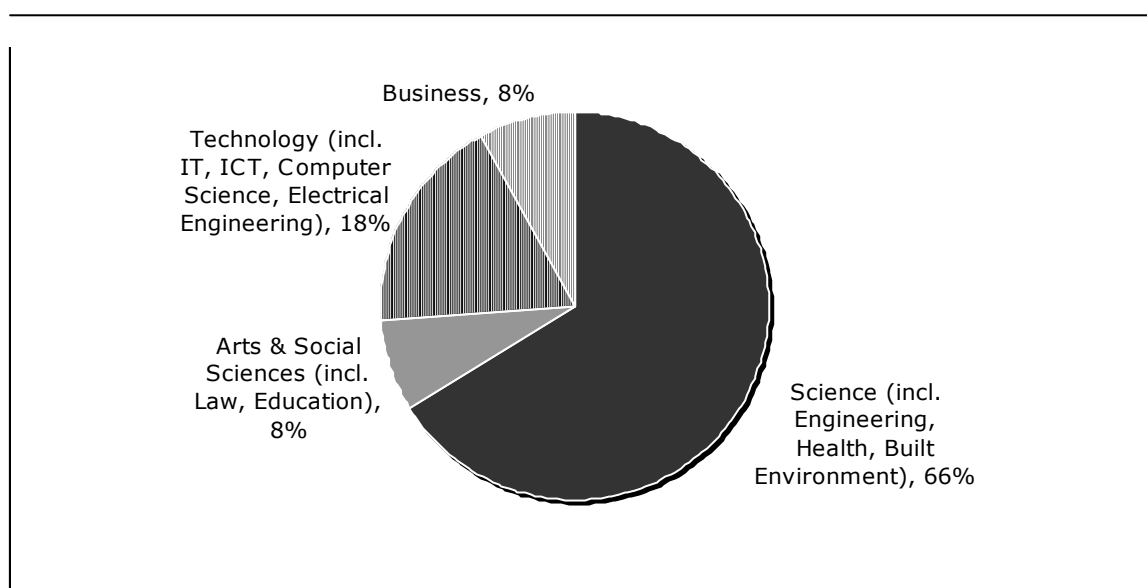
The survey found that undergraduate research experience programs operating within Australian universities function at varying administrative levels (university-wide, by faculty, department, school, etc) and encompass a diverse range of disciplinary spectra within these administrative levels. In particular, a large bias towards funding programs in certain disciplines was shown to be a common practice. Bias was particularly noted in the number of programs devoted to the science, technology, engineering and mathematics (STEM) disciplinary block in comparison to other disciplines such business, the arts or social

¹http://www.dest.gov.au/sectors/higher_education/publications_resources/statistics/selected_higher_education_statistics/previous_years.htm. We are grateful to Kevin Ryland for drawing this to our attention.



sciences. Figure 2 highlights this disparity between disciplines, with 66 per cent of the programs open to the sciences and 18 per cent to the technology sector, whilst only 18 per cent of programs are open to business, the arts, and social sciences disciplines combined. This bias may largely be attributed to the general conduciveness of the STEM disciplines to project-based research, and a tradition of promoting the practical integration of research and inquiry into the undergraduate experience through faculty or departmental initiatives. In contrast, only four programs open to the business, arts and social sciences disciplines have been established as separate faculty or departmental initiatives, outside of the all inclusive university-wide initiatives. The under representation of these disciplines may then be self-imposed by the disciplines themselves. This may be for several reasons documented in studies undertaken overseas, such as traditions and attitudes within the discipline towards research and inquiry at an undergraduate level, or more practically, the level of basic skills (such as fluency in another language) and research methods required of students to conduct meaningful research.²

Figure 2: Disciplinary Areas of Programs



This bias would seem to be partially eliminated in seven out of the nine programs which are open to undergraduate students from all disciplines as university-wide programs operated at an institutional level. Nevertheless, even within these large-scale programs, it was found that biases in favour of certain disciplines could still play out in the actual allocation of scholarships to each faculty or school. Thus in the example of Queensland University of Technology's Vacation Research Experience Scheme (VRES), which is open to students of all disciplines, the funding for the program is allocated amongst the various disciplines according to each faculty's current postgraduate research student EFTSL (equivalent full-time student load). This model of funding resulted in only 3 per cent of funding being allocated to the Faculty of Humanities in the summer of 2008-2009, whilst 18 per cent was allocated to the Faculty of Science, 17.8 per cent to the Faculty of the Built Environment and Engineering, and 15.5 per cent to the Faculty of Health. In practice, this model lends a bias towards those disciplines which already have an established research higher degree (RHD) population within the university, rather than increasing the number of RHD students in those disciplines which lack them. Clearly then, large-scale operation of undergraduate research experiences are predominantly linked to specific disciplines, namely the STEM areas.

² As has been noted in several studies in the USA by DeVries (2001), Rogers (2003), and McDorman (2004) into the factors inhibiting undergraduate research in the humanities.



Program structures

Investigations revealed that undergraduate research experience programs operate within varying institutional structures. The first demarcation of these programs into different structural models lies between those operating at an institutional or university-wide level, and those operating at a devolved divisional level within a certain faculty, department, school, research centre, or other administrative unit. The majority of the programs operate within the latter devolved divisional model, whilst, as has already been noted, the former model only began to occur from the mid-2000s onwards.

The second structural demarcation identified is the actual program structure itself. The majority of the programs identified take the form of a scholarship offered to students over their summer vacation with a limited tenure. Specific conditions are attached to these scholarships which integrate them into a program of research conducted with varying levels of formality. Programs following the scholarship model usually do so for the purposes of granting students tax-free remuneration. It is also an expressed concern of several universities that these scholarship programs should not be viewed by students as an alternative form of casual summer employment.

However, models other than the summer vacation scholarship were also identified, such as the Undergraduate Research Opportunities Program (UROP), originally established at Massachusetts Institute of Technology (MIT) and Imperial College London.³ The Faculty of Medicine at The University of New South Wales currently runs a UROP in which a student is employed as a casual staff member within a research laboratory, rather than receiving a tax-free scholarship.⁴ The student will typically commence research work within a laboratory during the summer vacation, but unlike the scholarship model, this work continues into the university semester on a longer term basis. As the website specifies to prospective supervisors of UROP students:

Note that UROP is not a vacation scholarship scheme but is designed to allow students to become integrated in the research group - students would be expected to hold the position for a minimum of 6 months.⁵

An identical UROP scheme is also currently offered exclusively to Victorian university students by an arm of The University of Melbourne, the Bio21 Cluster, which acts in the capacity of recruiting students to undertake research at biomedical laboratories in Victorian university departments, and particularly in external biomedical research companies.⁶ Similarly, the Menzies Institute at the University of Tasmania offers a UROP scheme along similar lines, but pays its students in stipend form.⁷ All three UROP schemes identically assert that their program structure aims “to provide a vertical integration of practical

³ See {Nagda, Gregerman, et al. 1998 #13740} for a description of the MIT program and Goodlad (1998) for a description of the Imperial College UROP model.

⁴ In contrast, the Imperial College UROP scheme is based on a tax-free stipend payment, see Goodlad (1998: 350).

⁵ <http://www.med.unsw.edu.au/medweb.nsf/page/UROP> (Accessed: 08/03/2010).

⁶ <http://www.bio21.com.au/urop.asp> (Accessed: 08/03/2010). See Appendix 3: External Funding, in which this scheme has been included due to its primary operation in and funding from external bodies, including the Victorian Life Sciences Computation Initiative (VLSCI) and the Victorian State Government.

⁷ <http://www.menzies.utas.edu.au/article.php?Doo=Redirect&id=847> (Accessed: 21/04/2010).



research in the undergraduate years”.⁸ In this way, the UROP model distinguishes itself structurally from the summer vacation scholarship not only in terms of the way it perceives its participants (as employees, not simply scholars), but in its expectations of the participants. Although students are expected to shoulder both the load of a full-time university semester and a casual research load; it is the consideration of the student as a casual employee which seemingly makes this possible. Thus in terms of providing a structured research experience, the UROP model attempts to bridge the gap between research undertaken during the summer vacation and the re-commencement of full-time coursework studies.

Finally, one other variant model was identified at the University of Technology, Sydney in the Centre for Real-time Information Networks and their Student Capstone Opportunities program.⁹ This program integrates the common curricular capstone unit with the concept of paid research and inquiry, which is a unique approach in view of the fact that nearly all of the other programs are strictly separated from the curriculum due to their nature as paid, and not voluntary activities.

Program aims

Our investigations revealed that the aims of these programs — why they were established and what they hoped to achieve — were not always what they seemed. Many academics and administrators involved in these programs had not considered what their program was attempting to accomplish, or some expressed different aims to those formally advertised on the program websites. Indeed, when examining the selection criteria and eligibility requirements outlined in the various program guidelines, it became apparent that these too provided another avenue of understanding the aims of these programs. From such varying sources of opinion, it has been possible to identify the key aims driving undergraduate research experience programs in Australian universities. Figure 3 outlines these aims in order of the relative frequency of their expression in both formal (university websites, scholarship guidelines, posters) and informal (emails and phone conversations) contexts, from most to least frequent. It must be noted that many of these aims overlap with each other, and that no program expressed all of them at any one time.

Above all others, the most frequently expressed aim and desired outcome of these programs is a need to increase the number and quality of undergraduate students enrolling in RHD programs at each respective university. For some, this is expressed as a general aspiration not confined to one university, as in the joint program between The Australian National University and the University of South Australia, who see their program as a part of their joint “commitment to the development of future research excellence in Australia”.¹⁰ However, on the whole, these programs are primarily centred around the pragmatic need to attract undergraduates into their RHD cohorts — ultimately to create a pipeline of students progressing from the ranks of the undergraduate cohort, onward to an Honours program, and then into PhDs. Indeed, while these programs primarily focus on retaining and increasing their RHD cohorts from within their own institution, they are also often

⁸ UNSW, the Bio21 Cluster, and the Menzies Institute all advertise the same aim, word for word. UNSW: <http://www.med.unsw.edu.au/medweb.nsf/page/UROP> (Accessed: 08/03/2010). Bio21 Cluster: <http://www.bio21.com.au/urop.asp> (Accessed: 08/03/2010). Menzies Institute: <http://www.menzies.utas.edu.au/article.php?Doo=Redirect&id=847> (Accessed: 21/04/2010).

⁹ <http://www.crin.uts.edu.au/capstone/index.html> (Accessed: 21/04/2010).

¹⁰ ANU/UniSA Memorandum of Understanding (MOU) Summer Research Scholarships http://info.anu.edu.au/studyat/040PP_Graduate_Research/Summer_Research_Scholarships/ANU_Uni_SA



utilised in competition with other universities. This is achieved by allowing undergraduates from outside of the host university to attend these programs, in order to encourage those students to pursue a research degree outside of their current undergraduate institution. Currently this is occurring across 25 programs, where there is a particular aim to attract potential Honours and RHD students from other universities via their university-wide non-discipline specific programs. The majority of these are concentrated in the Go8 universities (ANU, Monash, The University of Queensland). Nonetheless, several departmental programs from both the Go8 and non-Go8 universities also compete for students by allowing students enrolled at universities other than their own to apply.

Figure 3. The expressed aims of undergraduate research experience programs

1. To increase the quality and cohort size in Honours and Research Higher Degree programs.
2. To equip undergraduate students with research skills and/or research experience.
3. To provide students with academic and/or career clarification and opportunities in the field of research.
4. To expose students to 'research' (the culture, methodology, facilities, and academic environment) in their discipline.
5. To prepare students for Honours research and beyond.
6. To provide academic staff with assistance in ongoing research projects.
7. To foster academic relationships between fellow students, and between academic staff and students.
8. To create 'new knowledge' within the discipline, in the form of scholarly peer-reviewed articles.
9. To provide undergraduates with an enhanced learning experience.
10. To develop the ability of academic staff to carry out RHD supervisor responsibilities (academic development).

This general aim of targeting students for research degrees is particularly relevant to graduate research centres, whose academic staff are often purely research staff and rarely have teaching access to the undergraduate cohorts. These programs therefore allow research staff to access a source of potential RHD students for supervision which they otherwise would not be able to. These programs consequently provide an important nexus between the research and teaching life of the university; and they create pipelines between undergraduate and RHD programs.

Several of the other aims identified also serve to reinforce and feed into the overarching motivation of these programs to create larger and better quality research degree cohorts. The aim of equipping students with research skills and experience (2) in a positive manner is often expressed in connection with encouraging and enabling undergraduates to pursue an Honours program and RHD candidature. For by providing students with the research skills essential to their discipline and a positive



familiarity with a research environment and project, such students will be more likely to feel they are equipped to continue their studies to a research level. Indeed, these programs aim to function as a means by which both students and academic staff can measure whether a research career is a real pathway for them or not. Thus aims (3) and (4) often work together. By exposing students to 'research', students can decide whether they enjoy it, have the proficiency for a research career, and ensure they are pursuing the correct discipline. This process also allows current academic staff to 'sort the sheep from the goats' of the future generation of RHD students — another process embodied in aim (7), which essentially involves academic staff cultivating academic relationships with students they hope to supervise in a RHD capacity in the future. Thus these programs are often advertised in terms of providing a 'taste of research', a 'try before you buy' mentality is clearly encouraged on both the part of the student and the academic supervisor.

A further examination of the selection criteria and eligibility requirements advertised and codified in the conditions of these programs reveals that the primary aim (1) is also reinforced within these. It is clear that nearly all of the programs require their participants to be of a high academic calibre, for academic merit recurs as the imperative criterion for selection to these programs, and some programs do set minimum academic requirements.¹¹ Thus, 'research' appears to be enshrined within these programs as the preserve of the academic elite — a group which in all probability comes to such programs with some measure of pre-existing understanding and interest in 'research'. Consequently, these programs might merely serve to affirm and clarify this interest.¹² Further to this, the undergraduate year-levels at which these programs are targeted demonstrate that there is either an underlying assumption amongst academic staff about who is capable of 'research', or a deliberate attempt to target a certain student group. Only 28 programs are open to undergraduates who have completed their first year of study; 60 are open to those who have completed a second year of study; and an overwhelming 79 are open to students who have completed their third or last year of study and are likely to be on the cusp of entering an Honours year. Confining programs to the senior undergraduate population is seemingly a deliberate attempt to provide preparation for an Honours program (5), but more importantly, it is an attempt to encourage entry of more students into Honours and ultimately to research degrees, especially those who may as yet be undecided about pursuing a research career. In many cases, it is even a further requirement for entrance into a program that a student must be enrolled in or intending to pursue an Honours program in their next semester of study. This confirms the observation that there is an evident pattern of employing these programs as a means by which universities can ensure a maintained and increased Honours (and RHD) cohort.

As a consequence, other aims have received significantly less attention. The actual learning experience (9) which these programs could offer to students is not frequently recognised, a fact which is reflected in the significantly low number of programs open to first year students, and the exclusion of the 'average' student from participation in them through the high academic criteria of the programs. At the same time, the potential for students to produce 'new knowledge' is often only acknowledged as an unexpected outcome of the program, not as an aim; and those programs which do recognise it as an active aim are particularly targeted toward the academic elite of the academic elite in an undergraduate cohort. Thus it is apparent that despite a number of stated aims given on websites, undergraduate research experience programs have been implemented and may continue to be implemented with one overriding and pragmatic aim: the cultivation of a pipeline of quality and growing Honours and RHD student cohorts.

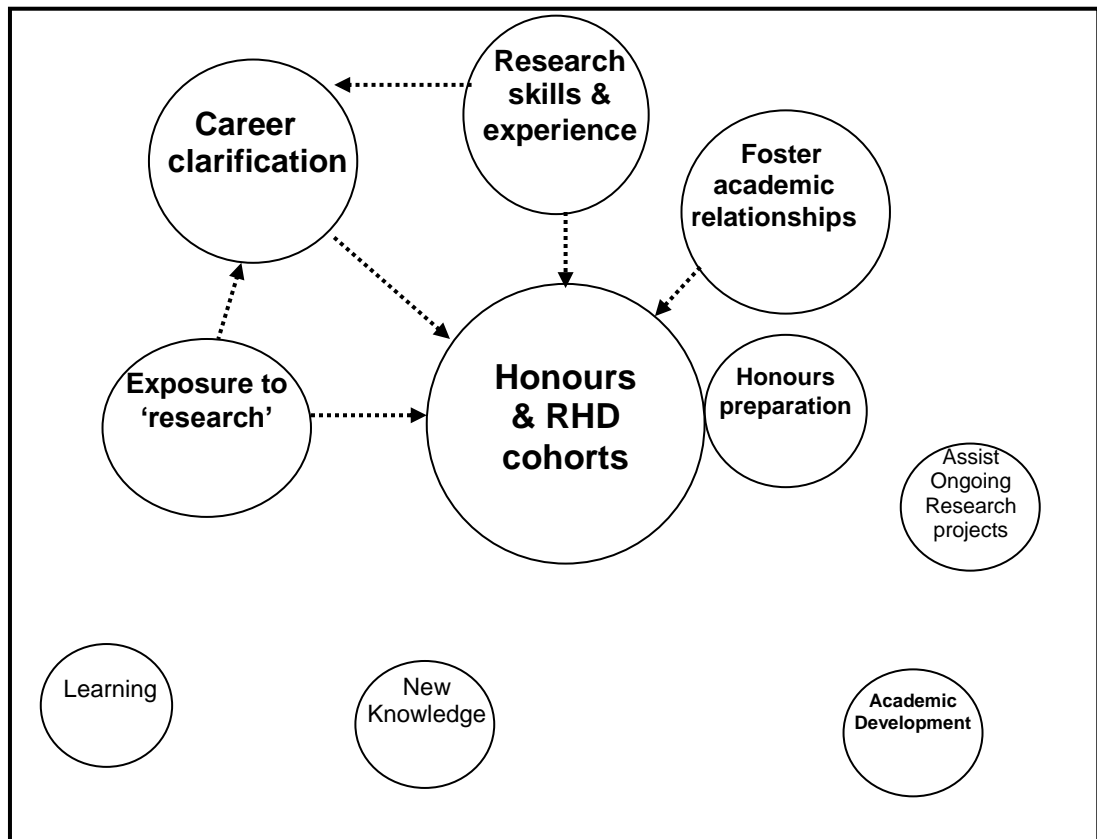
¹¹ See Appendix 2: Table of Programs.

¹² Further research into this issue as it stands in Australia does need to be undertaken to confirm this observation.



Figure 4 visually captures the relative importance of the various program aims in proportion to each other. Thus 'Honours & RHD cohorts' is visually larger than 'Learning', and so is more important as an aim of the programs. The figure also displays the relationship between certain aims of the programs, such as, for example, the connection between the 'Exposure to research' and how this aim can feed into the aim of 'Career clarification'.

Figure 4. The interconnection of program aims and their relative importance



Program outcomes

Despite the aims of all of these programs being articulated in some form, it became clear throughout our investigation that a program which received formal evaluation and had its outcomes measured is the exception. Formal attempts at measuring outcomes such as quantifying the actual number of students from the programs who continue on post-program to complete an Honours or RHD program have only recently begun in university faculties across Australia. Nevertheless, some general outcomes, illustrated by specific examples, can be discerned from the few universities who have taken an interest in measuring the investment of their funds into these programs.

1. Increased numbers of student enrolments in Honours and RHD programs.
 - i. Data is collected regarding the follow-on of students from the undergraduate research experience program into Honours and RHD programs in 18 programs.
 - ii. As far as we have been able to ascertain, the only program to have begun to formally analyse this result is the Faculty of Medicine at The University of



Sydney, where out of the 90 students who participated in the program in the summers of 2004/05 and 2005/06, 31 per cent have gone on to postgraduate studies in biomedical research at The University of Sydney, i.e. 28 students: 23 PhD; five Masters (Elliott, 2009).

- iii. There is anecdotal evidence in some programs that they have been successful in leading students into postgraduate study. It is clear that there is a widespread belief that this is the case.
 - iv. The program run by the Eskitis Institute for Cell and Molecular Therapies at Griffith University has noted that all of its participants have gone on to complete an Honours program, and some of these have gone further into higher degree research.¹³
2. The creation of 'new knowledge' via peer-reviewed journal articles, conference papers, or the completion of ongoing research projects.
 - i. Twenty programs reported that they believed their program had resulted in undergraduates publishing their research, usually in the form of a peer-reviewed journal article with their supervisor(s) as co-author(s). Indeed, some programs provided specific references to peer-reviewed journal articles co-authored by undergraduates.
 - ii. One student participant from the School of Veterinary and Biomedical Sciences at Murdoch University remarked in their student feedback form: "At the end of the project I had the opportunity to present my findings at a symposium for WWB conservation efforts".¹⁴
 - iii. However, at the same time, several program coordinators indicated that they believed this to be an unrealistic expectation from a program usually of such a short duration.
 3. There has also been a general observation that these programs, especially those operating in the science and technology disciplines, contribute significantly to the completion of ongoing research projects, and may indirectly contribute to further funding for research projects. Further research is needed to obtain systematic evidence for this.

Academic engagement and support

When analysing the nature of the academic experience students received from these programs, it was decided that this would be framed in terms of:

- the initiation of the research project. Is the project student or supervisor initiated?
- the academic supervisors. Who supervises the undergraduates?

¹³ <http://www.griffith.edu.au/scholarships/scholarship-categories/eskitis-vacation-scholarship>

¹⁴ Student feedback information sheet, School of Veterinary and Biomedical Sciences, Murdoch University:
http://www.vetbiomed.murdoch.edu.au/research/honours/Summer%20Scholarship_Student_Feedback_09-10.pdf



- the academic relationship between student and supervisor. To what extent is the relationship collaborative?
- the academic environment in which the research is undertaken.

Overwhelmingly, most programs involve supervisor initiated research, in which students are offered pre-designed research projects to undertake, or students are given an aspect of a supervisor's pre-existing research project. Only a small number of programs directly encourage student designed and initiated research projects; and those which allowed for both supervisor and student initiated research often stressed supervisor-initiated projects over student designed projects. This is a consequence of the limited time spans in which these programs operate; as several program coordinators remarked, 'blue sky' fresh research projects are not created for these programs — structured projects are a necessity. Thus in those programs where data was available, 37 involved supervisor-initiated research projects, whilst in comparison, only 12 programs allowed for student-initiated projects.

The nature of the academic supervision was found to vary greatly, and was often particular to each scheme. In general, academic supervisors consisted of RHD students, postdoctoral researchers and fellows, lecturers, and professors. RHD students, however, were only found to act as supervisors in the disciplines of science and technology, and normally only in a minor capacity. The nature of the supervision provided by each of these supervisors can be categorised into the following models:

1. Students and supervisors conduct research collaboratively, on a 1:1 student-to-supervisor ratio.
2. Students are supervised on a 1:1 ratio but carry out the research project independently, receiving guidance from their supervisor.
3. Students are integrated into a pre-existing research group with other undergraduate students, RHD students, postdoctoral fellows, and professors. Students will usually receive daily supervision from RHD students and postdoctoral fellows, whilst they will have less frequent contact with the project supervisor and research group leader (usually a professor).

Typically, model (1) and (3) operate most frequently in programs within the science and technology disciplines, whilst model (2) features in the few programs devoted to business, the arts, and social sciences. This is not unusual, and finds several comparisons to undergraduate research programs in the USA.¹⁵ The academic environment in which students conduct their research seems to be collegial, and most programs emphasise in their advertisements the facilities, equipment, and leading researchers which students will have access to. The exact nature of the student experience cannot, however, be deduced from the preliminary research undertaken here. To gain a picture of how students experience these programs, further research is necessary.

Academic recognition, financial reward and funding

The vast majority of the programs examined were established either as extra-curricular or co-curricular programs. As a result, very few programs are linked to the curriculum or attempt to award students with academic credit through some aspect of a degree requirement. The requirement that students must complete industry experience in an

¹⁵ Beckman & Hensel (2009) note a tension between collaborative and individual-oriented research models.



engineering degree at The University of New South Wales¹⁶ is unusual in this respect. Some programs were designed to act as a continuation of unpaid programs or curricular research undertaken during the semester. In general, however, students only receive academic recognition directly in the form of certificates or awards, and indirectly through the opportunity to become co-authors of a peer-reviewed journal article or conference paper. The methods available for assessing students' research within these programs are thus minimal. In most cases, students are required as per the guidelines of their scholarship to submit a written report at the completion of their research program, usually no longer than two pages in length. Academic assessment within these programs is thus seemingly linked to the limited level of academic recognition students can receive from extracurricular or co-curricular activities.

Nevertheless, programs justify this lack of academic recognition in the assertion that students are compensated through financial reward. This financial reward often took the form of a tax-free stipend paid in instalments throughout the duration of the program, or alternatively as a traditional lump-sum scholarship payment.¹⁷ The stipend model is currently the most popular, with 63 programs operating under this system, whilst 35 programs provide lump-sum payments.

Within the stipend model, the amount paid to a student conducting full-time research (35-plus hours per week) varies greatly between the programs surveyed. The average stipend offered to students across the entire spectrum of programs amounted to \$313 per week. This figure, however, must not be viewed in isolation, but within the context of a scale of stipends ranging from \$125 to \$600 per week where the vast majority (44 programs) of stipends are concentrated within the range of \$200 to \$400 per week. Indeed, stipends differ markedly between different departmental programs operated within the same university. For example at The University of Sydney, the Faculty of Pharmacy program offers students \$200 per week, whilst the School of Physics offers \$500 per week.¹⁸ In contrast, the university-wide programs, which are open to all disciplines, generally offer standardised stipends across all disciplines. Nevertheless, even within these centralised programs, stipends can vary. The university-wide vacation scholarship program operated at Monash University offers variable stipends which differ between faculties and schools. Figure 5 illustrates these differences in the example of Monash University.

As Figure 5 demonstrates, there can be a clear range of stipends between the different disciplinary and administrative divisions of a university. In some cases this may be discipline oriented, a result of the perception of undergraduate research amongst certain disciplines; as yet the data from this survey is insufficient to confirm this inference in Australia. Yet it is clear from the difference between the stipends offered by the Caulfield and Clayton Schools of Information Technology that such variations could also merely be dictated by administrative concerns. Certainly, the funding models behind each program play a determinative role in the financial range of stipends, and the number of stipends offered to students. For throughout our investigations it became apparent that funding dictates the operation of these programs in their most basic sense — a challenge discussed below — and that this funding is sourced and administered by several different agents.

¹⁶ As the website of the UNSW Faculty of Engineering Taste of Research Scholarships advertises, "UNSW Bachelor of Engineering students may use their Taste of Research Summer Scholarship as a contribution towards their Industrial training requirements.": <http://www.eng.unsw.edu.au/undergrads/scholarships#trss> (Accessed: 22/04/2010).

¹⁷ Other payment models include the casual employment model which operates solely within the UROP program in the Faculty of Medicine at The University of New South Wales. As employees of the university students are subject to employment agreements and taxation. See <http://www.med.unsw.edu.au/medweb.nsf/page/UROP> (Accessed: 08/03/2010).

¹⁸ See Appendix 2, under the amount column for specific financial details of each program.



Figure 5. Variations in students' stipends within the vacation scholarship program at Monash University (Source: <http://www.adm.monash.edu.au/scholarships/opportunities/vacation-schols.html>)

Faculty/School/Department/Centre	Stipend Amount (per week)
Faculty of Engineering; School of Geography and Environmental Science.	\$400
School of Mathematical Sciences; School of Geosciences.	\$380
Accident Research Centre; Clayton School of IT.	\$350
School of Chemistry.	\$300
Caulfield School of Information Technology; Department of Anatomy and Developmental Biology; Dept. of Biochemistry and Molecular Biology; Dept. of Physiology; School of Psychology, Psychiatry, and Psychological Medicine; Monash Centre for Synchrotron Science; School of Geosciences; School of Chemistry.	\$250

The key funding models encountered are the following:

- **Divisional funding:** programs are funded from the annual budget of a faculty, school, department, or research centre. This is the most common source of funding.
- **Institutional funding:** programs are funded by funds distributed by the central university administration, including the research office. This funding model is confined to the university-wide programs.
- **Joint funding:** programs are funded by the institution with matched funding by departments
- **Personal funding:** programs are funded entirely or partially supplemented by funds sourced from the research grants of academic supervisors operating the program. These research grants often included Australian Research Council (ARC) and National Health and Medical Research Council (NHMRC) grants. This funding model is not typical and often only informally used.
- **External funding:** several programs rely heavily upon bequests from private individuals, or funding from external bodies, such as those listed in Appendix 3.

Challenges

It must be noted that when asked about the challenges their undergraduate research program had encountered, many academics and administrators could not identify any. Nevertheless, several programs did have identifiable challenges in the past, present, and future; it is from these answers that several observations have been made.

Above all, funding was the key issue which arose for programs, and it continues to loom for many as a possible or definite obstacle for the future operation of programs. For while those programs which are funded by the central university administration have a secured funding scheme, which in some instances, such as The University of Queensland, has allowed for the rapid expansion of these programs, the programs funded at a divisional level are severely limited by and subject to annual budgets. Therefore, in some cases, as divisional budgets have been cut, so too has the funding for these programs. In the Department of Physics and Engineering at Macquarie University this reduction in funding



— mirrored in the number of scholarships — unfortunately coincided with an increase in actual applications from students in the same year.¹⁹ Similarly, programs reliant on external funding, such as bequests, have been discontinued as investments fail or are exhausted. Further still, some programs have noted the growing popularity of the programs resulting in an oversupply of applicants and undersupply of scholarships. Hence, a key challenge for the future of these programs, especially those reliant on divisional funding, will be finding appropriate sources of permanent financial security and growth. Currently, the institutional funding model seems to provide the most promising model for the future of undergraduate research experience in Australian universities. It will be the challenge of smaller, non-Go8 universities to take this model onboard.

In contrast to an apparent demand amongst students for positions in these programs, there were nevertheless stark exceptions within certain disciplines. Most notably, the School of Information Technologies at The University of Sydney and the Department of Computing at Macquarie University both noted the challenge of attracting information technology students to their research programs due to a lack of interest in research and due to the competition met from the more attractive prospect of pursuing more lucrative summer employment or practical internships at IT companies.²⁰ Similarly, the Faculty of Medicine at The University of Sydney has experienced problems attracting students from the graduate medical program, who are focused on becoming professionals and have no interest in pursuing a specialised medical research career.²¹ Clearly then, there are certain challenges confronting particular disciplinary programs.

Finally, a challenge and inherent problem which seemingly faces every program, is the complete absence of financial support provided for the academic supervisors who operate these programs.²² No additional remuneration beyond their academic salary for their time spent supervising undergraduate students was found among any program coordinators. In some cases this could amount to periods of time ranging from four to 12 weeks. Supervisors are expected to supervise one or more undergraduate students throughout their traditional research intensive period over the summer vacation, whilst conducting administration and other duties. Although very few academic staff voiced their dissatisfaction explicitly about this issue, one supervisor summed up the overarching concern which underlies many of these programs:

Supervisors are not recognised in any way, financially or even in their workload models, for supervising research students. It's all called 'research', without any teaching component, even though that's what it involves most of the time (email, program coordinator).²³

Nevertheless, many academic staff are clearly content to continue their supervisor roles because the indirect benefits (future Honours and RHD students; completion of research projects; peer-reviewed publications) accrued from the program have been perceived to be worthwhile in themselves.

¹⁹ Phone conversation with program coordinator, Macquarie University.

²⁰ Email from program coordinator, The University of Sydney (28/09/2009); email from program coordinator, Macquarie University (03/01/2010).

²¹ Email from program coordinator, The University of Sydney (20/10/2009).

²² The exception is the Charles Sturt University Rural Archives (CSURA) collection program (see Appendix 2), which pays academic supervisors for 4 hours of supervision per week.

²³ Email from program coordinator at Swinburne University of Technology (21/10/2009).



Conclusions

The analysis of the data gathered from our investigations into the state of undergraduate research experience programs across Australian universities has highlighted the following:

- undergraduate research experience programs are widespread, being present in 23 of the 39 universities surveyed in some form
- the programs are operational in several disciplinary areas, however, there is a strong emphasis on the STEM disciplines
- the programs tend to target an elite niche of the undergraduate population in universities
- the primary focus of the programs is to maintain and grow a pipeline of undergraduates progressing into Honours and RHD programs
- a large proportion of the programs are recent and growing initiatives of universities from the mid-2000s onwards
- the programs operate on several different administrative levels and structural models; within these there is a trend towards creating Institution funded schemes offered on a university-wide basis, rather than on a divisional basis
- student numbers in the programs though small in comparison to National student enrolments, are significant (1500-2000 students) and increasing in some programs
- the outcomes of the programs are yet to be formally evaluated in most programs; the undergraduate student experience in these programs has not yet been measured
- funding is the primary challenge for the future of the programs, both in terms of sustainability and growth
- academic supervisors receive little financial or formal academic recognition from central university administrations for their role in the programs.



Evan Jewell, undergraduate scholar and Angela Brew, ALTC National Teaching Fellow, December 2009



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Appendix 1: Program Survey & Descriptions

CONTENTS

A. Survey Foci

B. Programs at Institutional Level

C. Programs at Divisional (Faculty/Department/School/Centre) Level

A. Survey Foci

For the purposes of assessing the nature of each scholarship program, a number of foci were investigated

Discipline: The disciplines in which the programs operate are identified.

History: The general background of each program is outlined, along with any information concerning how well established or recent a program may be.

Aim(s) of the program: These are the advertised and unadvertised aims and purposes cited by the universities and external funding bodies as the reasons behind the existence of these programs.

Academic Engagement & Support: Here the nature of the academic environment in which the undergraduate student conducts research was examined. The following areas were of specific interest:

Styles of academic supervision and how these relate to specific disciplines.

The different levels of seniority amongst supervisors.

The nature of the research project undertaken. Is the project proposed by the student, supervisor, or collaboratively negotiated?

Assessment & Academic Recognition: How a student's research is assessed within the requirements of the program was considered, as well as the academic recognition the student receives, whether curricular or extra-curricular, was noted where available.

Challenges: The challenges faced by the program (if any) in the past, present, and future.

Outcome(s) of the program: Any perceivable or measured outcomes from the program were identified. For example, this may include student publications (sole or co-authored), or increases in Honours and postgraduate student numbers.



B. Programs at Institutional Level

Monash University

❖ Vacation Scholarships:

<http://www.adm.monash.edu.au/scholarships/opportunities/vacation-schols.html>

Discipline: Most scientific disciplines: Geography & environmental science, engineering, IT, biology, physiology, psychological medicine, psychology, psychiatry, chemistry, mathematics, geosciences, accident research, synchrotron science.

History: Several pre-existing summer vacation programs from each School were centralised approximately 3 years ago into an institutional scheme, partly to ensure all scholarships maintained a tax-free status.

Queensland University of Technology

❖ Vacation Research Experience Scholarship (VRES)

<http://www.qut.edu.au/research/rhd/ug/vres.jsp>

Discipline: All disciplines across the Faculties.

History: The program was established in 2006.

The Australian National University (ANU)

❖ Summer Research Scholarships

http://info.anu.edu.au/studyat/040PP_Graduate_Research/Summer_Research_Scholarships

http://info.anu.edu.au/studyat/040PP_Graduate_Research/Summer_Research_Scholarships/general

Discipline: All disciplines.

History: The Australian National University has had a history of running summer research scholarship programs within its separate academic Faculties, Schools and Colleges for up to 25 years in some disciplines.

❖ ANU/UniSA Memorandum of Understanding (MOU) Summer Research Scholarships

http://info.anu.edu.au/studyat/040PP_Graduate_Research/Summer_Research_Scholarships/ANU_UniSA

Discipline: All disciplines, but specific emphasis on Environment, Health, Population health, Software Engineering and Computer Science, Telecommunications, Minerals and Materials Science, Indigenous Policy Development, Asia/Pacific Studies and Social Sustainability.

History: The program was introduced in 2008 as a part of the Memorandum of Understanding signed by the Australian National University and University of South Australia, aiming to “establish programs of collaboration in areas of mutual interest in education, research and research training” (Leanne Harrison, RHD Recruitment Officer).



❖ ANU/USQ Memorandum of Understanding (MOU) Summer Research Scholarships*

http://info.anu.edu.au/studyat/040PP_Graduate_Research/Summer_Research_Scholarships/ANU_USQ

Discipline: Sustainability.

History: The program was introduced in 2009.

The University of Adelaide

❖ Summer Vacation Research Scholarships

<http://www.adelaide.edu.au/scholarships/undergrad/asrs.html>

Discipline: All disciplines across the five Faculties.

History: The program is well established, having been founded in 1999.

The University of Newcastle

❖ University of Newcastle Summer Vacation Scholarships 2009

http://webapps.newcastle.edu.au/scholarships/index.cfm?event=viewScholarship&scholarship_id=UNI_003&scholarship_year=2009

Discipline: All disciplines.

The University of Queensland

❖ UQ Summer Research Scholarship Program

<http://www.uq.edu.au/study/scholarships/index.html?page=104601&pid=109335>

Discipline: All disciplines.

History: The program was first established in 2008, and following its success, it was considerably expanded in 2009 to make it the largest undergraduate research experience program in Australia.

University of South Australia

❖ High Achiever Vacation Research Scholarships

http://www.unisa.edu.au/scholarship/undergraduate/ug_unisa.asp#SummerResSchlp

Discipline: All disciplines across the university Schools and Research Centres.

❖ UniSA-ANU Vice Chancellors' Summer Research Scholarships

<http://www.unisa.edu.au/resdegrees/scholarships/unisa-anus-scholarships.asp>

Discipline: All disciplines, but preference given to Health, Software Engineering and Computer Science, Indigenous Policy Development, Environment and Asia/Pacific Studies.

History: The program was introduced in 2008 as a part of the Memorandum of Understanding signed by the Australian National University and University of South Australia, this being "part of the universities' commitment to the development of future research excellence in Australia" (scholarship website:

<http://www.unisa.edu.au/resdegrees/scholarships/unisa-anus-scholarships.asp#objectives>).



c. Programs at divisional level (faculty/department/school/centre)

Deakin University

- ❖ Centre for Material and Fibre Innovation, Faculty of Science and Technology: *The Bennett Summer Placement*
<http://www.deakin.edu.au/current-students/handbooks/2009/scholarships/undergraduate.php>

(No further information available at the time of report compilation)

Charles Sturt University

- ❖ **School of Animal and Veterinary Sciences:** *Summer Scholarships*
<http://www.csu.edu.au/faculty/science/savs/scholarships/>

Discipline: Animal, equine, and veterinary sciences.

- ❖ **Charles Sturt Regional Archives Collection:** *Regional Archives Summer Research Scholarships*
<http://www.csu.edu.au/research/archives/summer-scholarships.htm>

Discipline: Humanities, social sciences, or visual and performing arts.

History: The program was established in 1997.

Flinders University

- ❖ **School of Midwifery and Nursery:** *Summer Scholarships*
http://www.flinders.edu.au/scholarships-system/main-display-scholarship-rules.cfm?scholarship_id=1745

Discipline: Midwifery and nursing.

History: The program was established in 2008.

- ❖ **National Institute of Labour Studies:** *Summer Scholarships*
(No dedicated website) <http://nils.flinders.edu.au/news.php?nid=1233891770>

Discipline: Interdisciplinary approaches with a focus on labour studies, particularly, sociology, psychology and economics.

History: The program was established approximately 10 years ago.



Griffith University

❖ **Eskitis Institute for Cell and Molecular Therapies: *Eskitis Vacation Scholarship***

<http://www.griffith.edu.au/scholarships/scholarship-categories/eskitis-vacation-scholarship>

http://www.griffith.edu.au/science/eskitis-institute-cell-molecular-therapies/pdf/VacationScholarships2009_10.pdf

Discipline: Science.

History: The program has been running for approximately 3-4 years.

❖ **Institute for Glycomics: Glycomics Summer Scholarships**

<http://www.griffith.edu.au/scholarships/scholarship-categories/glycomics-summer-scholarships>

Discipline: Science.

History: The program has been operating since 2005.

La Trobe University

❖ **Department of Chemistry: *Summer Vacation Scholarships***

http://www.latrobe.edu.au/chemistry/staff/abbott/abbott_summerscholar2009.pdf

Discipline: Chemistry.

Macquarie University

❖ **Department of Physics & Engineering: Summer Vacation Research Scholarship in Physics, Photonics and Astronomy.**

<http://www.physics.mq.edu.au/undergrad/vacation-scholarships/index.html>

Discipline: Physics, Photonics, Astrophysics, and Astronomy.

History: Established approximately 10 years ago.

❖ **Department of Chemistry & Biomolecular Sciences: CBMS Vacation Research Summer Scholarship.**

<http://www.chem.mq.edu.au/ugrad/scholarships.html>

Discipline: Chemistry & Biomolecular sciences.

History: Established approximately 10 years ago.



- ❖ **Department of Biological Sciences: *Biology Summer Research Experience Scholarships***
http://www.science.mq.edu.au/undergraduate_programs/prizes_and_scholarships

Discipline: Biology.

History: Established approximately 5 years ago.

- ❖ **Department of Mathematics: *Vacation Scholarships in Mathematics***
<http://www.maths.mq.edu.au/awards/vacation.html>
<http://www.maths.mq.edu.au/Ad%20Vac%20Scholarships.doc>

Discipline: Mathematics.

History: Established approximately 15 years ago.

- ❖ **Department of Computing: *Vacation Scholarships***
<http://www.comp.mq.edu.au/scholarship/vacation/>

Discipline: Computing.

History: The program was established approximately over 10 years ago.

Monash University

- ❖ **Faculty of Information Technology: *Monash Undergraduate Research Projects Abroad (MURPA)***
<https://messagelab.monash.edu.au/MURPA/AnotherPage>

Discipline: Information technology, computer science, software engineering. The program focuses on the use of e-science in the applied sciences, for example, in the area of cardiac modeling.

History: The MURPA program is modeled on the PRIME (Pacific Rim Undergraduate Experiences) program from the University of California San Diego (UCSD) which has operated for 6 years. MURPA ran for the first time successfully over the summer of 2008-2009, with Monash students traveling to UCSD, and UCSD students traveling to Monash to undertake a research project.

Murdoch University

- ❖ **School of Veterinary & Biomedical Sciences: *VBS Summer Scholarships***
http://www.vetbiomed.murdoch.edu.au/research/honours/summer_schols.html

Discipline: Veterinary and biomedical science.

History: The program has been in existence since 2002.



❖ **School of Chiropractic & Sports Science: *Summer Scholarships***

http://www.chiropractic.murdoch.edu.au/interested_research.html

Discipline: Chiropractics.

History: The program has been in existence for approximately four years.

RMIT University

❖ **School of Electrical and Computer Engineering: *Summer Scholarships***

<http://www.rmit.edu.au/browse;ID=744hcgacpp82>

Discipline: Engineering

History: The program has been in existence for approximately 3-4 years.

Swinburne University of Technology

❖ **Centre for Complex Software Systems & Services: *Summer Student Scholarships***

<http://www.swinburne.edu.au/ict/research/cs3/summerschols.html>

Discipline: Information communications technology.

❖ **Centre for Astrophysics & Supercomputing (CAS): *Vacation Scholarships in Astronomy at CAS***

<http://astronomy.swin.edu.au/study/vacstudents.html>

Discipline: Astronomy, astrophysics, computing.

History: The program has been in existence for six years.

The University of Adelaide

❖ **Faculty of Health Sciences: *Faculty of Health Sciences Undergraduate Research Scholarships***

<http://health.adelaide.edu.au/research/ugresearch/vacation/> (Discontinued as of 2009/10 summer).

Discipline: Medicine, medical science, dentistry, pediatrics, population health, clinical practice, psychology, health sciences in general.

History: The program has had a well established history of popularity since 1998. However, due to a lack of endowment funding, the program has been discontinued from this year (2009/10 summer) onwards until further funding can be found.



The University of Melbourne

❖ Department of Information Systems: *Summer Studentships*

<http://www.dis.unimelb.edu.au/grad/honours/scholarships>

Discipline: Information systems (e.g. health informatics).

History: The program was established approximately 5 years ago.

❖ Department of Biochemistry & Molecular Biology: *Lundie Summer Research Scholarship* (now discontinued as of 2008 degree restructure)

<http://www.unimelb.edu.au/unisec/awards/science.html>

Discipline: Biomedical science.

History: the program was established in 2004 in memory of Nicole Lundie, a PhD student who passed away in 2003. Due to the restructuring of the degree, the scholarship was discontinued for 2008.

❖ Department of Medicine: *BSc(Hons) Summer Vacation Scholarships*

<http://www.austinmedicine.unimelb.edu.au/courses/scholarships.html>

Discipline: Medicine.

History: The program has been in existence for 4 years.

❖ Department of Anatomy & Cell Biology: *Sir John Eccles Vacation Scholarships*

<http://www.anatomy.unimelb.edu.au/students/prizes.html#7>

Discipline: Anatomy, cell biology, sciences.

History: The program has been in existence in the Department for 4 years.

❖ School of Chemistry: *Summer Research Scholarships*

http://www.chemistry.unimelb.edu.au/students/summer_research.html

Discipline: Chemistry.

History: The program is well established and extremely popular, having been in existence for approximately 12 years.

❖ Department of Optometry & Vision Sciences: *Summer Research Studentships*

<http://www.optometry.unimelb.edu.au/research/studentships.html>

Discipline: Optometry.

History: The program has been in existence for 5 years.



❖ **Department of Mathematics & Statistics:** *Vacation Scholarships*

<http://www.ms.unimelb.edu.au/~vacation/index.php>

Discipline: Mathematic and statistical sciences.

❖ **Bio21 Molecular Science & Biotechnology Institute:** *Summer Vacation Studentships*

<http://www.bio21.unimelb.edu.au/education-and-training/summer-studentships-for-2009-10>

Discipline: Medical, environmental and agricultural biotechnology.

History: The scheme was established in 2006.

The University of New South Wales

❖ **Faculty of Medicine:** *Undergraduate Research Opportunities Program (UROP)*

<http://www.med.unsw.edu.au/medweb.nsf/page/UROP>

Discipline: Medicine/Science

❖ **Faculty of Science:** *Summer Research Scholarships*

(Website no longer valid)

Discipline: Science

History: The program was established in 2001 and was administered by the various schools in the Faculty, but funded by the Faculty until this year, when the Faculty assumed control of the program.

❖ **Department of Astrophysics & Australian Centre for Astrobiology – Exoplanetary Science Group:** *UNSW Exoplanetary Science Vacation Scholarships*

(Limited information available for this scheme. It runs as a private initiative. The program is funded primarily by private research grants).

❖ **Faculty of Engineering:** *Taste of Research Scholarships*

<http://www.eng.unsw.edu.au/undergrads/scholarships#trss>

<http://www.eng.unsw.edu.au/files/file/taste-of-research-summer-schoalrships-brochure2009-10.pdf>

Discipline: Engineering

History: The program has been in existence since 2002.



The University of Newcastle

Insufficient data was available to provide a description of the following programs:

- ❖ [ARC Centre of Excellence for Complex Dynamic Systems and Control \(CDSC\) - Research in Micro Electro Mechanical Systems \(MEMS\) Summer Vacation Scholarship 2009](#)
- ❖ [Centre for Brain and Mental Health Research Summer Vacation Scholarship - Research in Brain and Mental Health 2009](#)
- ❖ [Faculty of Engineering and Built Environment - Biochemical Research Summer Vacation Scholarship 2009](#)
- ❖ [Faculty of Engineering and Built Environment - Research in Geomechanics - Clays Summer Vacation Scholarship 2009](#)
- ❖ [Faculty of Engineering and Built Environment - Research in Geomechanics - Landslider Summer Vacation Scholarship 2009](#)
- ❖ [Faculty of Engineering and Built Environment - Research in the Use of Phase Changing Materials to Enhance the Thermal Performance of Housing Summer Vacation Scholarship 2009](#)
- ❖ [Faculty of Engineering and Built Environment Summer Research Scholarship 2009](#)
- ❖ [Faculty of Health - Research in Men, Depression and Social Networks in Rural Communities Summer Vacation Scholarship 2009](#)
- ❖ [Faculty of Health - Research in Microvascular Flow in the Neonatal Guinea Pig Summer Vacation Scholarship 2009](#)
- ❖ [Faculty of Health Priority Research Centre Health Behaviour - Research in Health Behaviour Summer Vacation Scholarship 2009](#)
- ❖ [Faculty of Science and Information Technology - Research in Structural and Functional Brain Imaging Study of How White Matter Lesions in Patients with Minor Ischaemic Stroke Relate to Cognitive and Motor Control Summer Vacation Scholarship 2009](#)
- ❖ [Faculty of Science and Information Technology Summer Vacation Scholarships 2009](#)
- ❖ [Newcastle Business School Summer Vacation Scholarship 2009](#)
- ❖ [School of Biomedical Science & Pharmacy - Research in Neuroscience - Depression 2009](#)
- ❖ [School of Biomedical Sciences and Pharmacy - Research in Biomedical Science Topics Summer Vacation Scholarship 2009](#)
- ❖ [School of Biomedical Sciences and Pharmacy - Research in Immunology Summer Vacation Scholarship 2009](#)
- ❖ [School of Biomedical Sciences and Pharmacy - Research in Immunology and Respiratory Disease Summer Vacation Scholarship 2009](#)
- ❖ [School of Biomedical Sciences and Pharmacy - Research in PRC for Asthma and Respiratory Disease Summer Vacation Scholarship 2009](#)
- ❖ [School of Biomedical Sciences and Pharmacy Summer Vacation Scholarship - Research in Tyrosine Hydroxylase Phosphorylation 2009](#)
- ❖ [School of Electrical Engineering and Computer Science - Research in Empowering Electric Grids for Connecting Renewable Generators Summer Vacation Scholarship 2009](#)
- ❖ [School of Electrical Engineering and Computer Science - Research in Home Area Networking for Intelligent Electricity Networks Summer Vacation Scholarship 2009](#)
- ❖ [School of Electrical Engineering and Computer Science - Research in Signal Processing and Embedded Systems Summer Vacation Scholarship 2009](#)
- ❖ [School of Environmental and Life Sciences - Research in Manganese Oxides as Cathode Catalysts in Li-air Cells Summer Vacation Scholarship 2009](#)



- ❖ [School of Environmental and Life Sciences - Research in Medicinal Chemistry Summer Vacation Scholarship 2009](#)
- ❖ [School of Environmental and Life Sciences - Research in the Electrochemical Activity of Biochar Summer Vacation Scholarship 2009](#)
- ❖ [School of Environmental and Life Sciences - Research in the Rechargeable Alkaline Manganese Dioxide Cathode Summer Vacation Scholarship 2009](#)
- ❖ [School of Environmental and Life Sciences - Research in the Use of Biochar for Environmental Remediation Summer Vacation Scholarship 2009](#)
- ❖ [School of Environmental and Life Sciences/ARC Centre for Excellence - Research in Reproductive Biology Summer Vacation Scholarship 2009](#)
- ❖ [School of Health Sciences Summer Vacation Scholarships 2009](#)
- ❖ [School of Medicine and Public Health - Research in Reproduction, Endocrinology, Development and Aboriginal Maternal Health Summer Vacation Scholarship 2009](#)

The University of Sydney

❖ Faculty of Pharmacy: Summer Vacation Scholarships

http://www.pharm.usyd.edu.au/current_students/ug_students/vacation_scholarship.shtml

Discipline: Pharmacy.

History: The program has been in existence for 4 years.

❖ School of Information Technologies: School of IT & NICTA (National ICT Australia Limited) Summer Scholarships

http://www.it.usyd.edu.au/current_students/vacation.shtml

http://www.it.usyd.edu.au/current_students/vacation_projects.shtml

Discipline: Information Technology.

History: The program has been in existence for 5 years.

❖ School of Civil Engineering: Summer Break Research Scholarships

(No dedicated website, see

<http://www.usyd.edu.au/news/civil/318.html?newsstoryid=2814>)

Discipline: Engineering.

History: The program is a relatively new initiative, running for its second time in 2009.

❖ School of Chemistry: Chemistry Summer Undergraduate Scholarships

(Scholarships website no longer operational, check School website

<http://www.chem.usyd.edu.au/index.html> for details in the period between September-October when applications are accepted).

Discipline: Chemistry.

History: The School has had a long history of providing a summer scholarship scheme. This version of the scheme, however, began in 2004.



❖ **School of Mathematics & Statistics: *Vacation Scholarships***

<http://www.maths.usyd.edu.au/u/PS/VacSchol.html>

Discipline: Mathematics and statistics.

History: The program has been in existence for at least 11 years.

❖ **School of Molecular & Microbial Sciences: *MMB Summer Scholarships***

http://www.mmb.usyd.edu.au/summer_scholarships/summer_scholarships.php

http://www.mmb.usyd.edu.au/summer_scholarships/documents/Summer_Schol_Poster.pdf

Discipline: Chemistry and Biology.

History: The program is a long established scheme, having been established in 1997.

❖ **School of Physics: *Vacation Scholarships***

http://www.physics.usyd.edu.au/current/vac_scholarship.shtml

Discipline: Physics.

History: The program has been in existence for at least 15 years in the School.

❖ **School of Physics — Complex Systems Group: *Complex Systems Scholarships***

http://www.physics.usyd.edu.au/current/complex_sys_scholarships.shtml

Discipline: Physics (space, plasma, brain).

History: The program has been in existence for approximately 6 years.

❖ **Faculty of Medicine (Sydney Medical School): *Summer Research Scholarships***

<http://www.medfac.usyd.edu.au/research/srs/index.php>

Discipline: Medicine

History: The program was introduced in 2004 by the Sydney Medical School Research Committee based on a similar program at the ANZAC research institute. In 2005 the program was awarded the University of Sydney Vice-Chancellor's Award for Support of the Student Experience, and in 2007 received a citation for outstanding contributions to student learning with the Carrick Australian Award for University Teaching.

The University of Western Australia

❖ **Department of Astronomy & Astrophysics: *Vacation Scholarships***

<http://www.astro.uwa.edu.au/students/scholarships>

Discipline: Astronomy, astrophysics, computing, engineering, radio astronomy and SKA (Square Kilometre Array).

History: The program is a relatively recent initiative begun in 2008.



❖ **School of Biomedical & Chemical Sciences:** *Biomedical, Biomolecular, and Chemical Sciences Summer Vacation Scholarships*

<http://www.scholarships.uwa.edu.au/home/vacation/bbcs>

Discipline: Biochemistry and Molecular Biology, Chemistry, Microbiology and Immunology and Physiology.

History: The program began in 2004 and last ran in 2008. Due to funding constraints the program was cancelled for the year 2009, and may remain so in 2010.

❖ **School of Biomedical & Chemical Sciences:** *Rotary Club of Thornlie Helen Hosking Vacation Scholarship in Biochemistry*

<http://www.scholarships.uwa.edu.au/home/vacation/hosking>

Discipline: Biochemistry.

History: The scholarship has a long uninterrupted history of operation since its inception in 1990.

❖ **School of Biomedical & Chemical Sciences:** *Ivan T. Oliver Vacation Scholarship in Biochemistry*

<http://www.scholarships.uwa.edu.au/home/vacation/ivanoliver>

Discipline: Biochemistry.

History: The scholarship has now been in existence for two decades after being established in 1989.

❖ **School of Biomedical & Chemical Sciences (Centre for Strategic Nano-Fabrication):** *Nanotechnology Summer Vacation Scholarship*

<http://www.scholarships.uwa.edu.au/home/vacation/nanotechnology>

Discipline: Nanotechnology, specifically nano fabrication.

History: The scholarship is a recent initiative begun in 2008.

❖ **School of Biomedical & Chemical Sciences:** *Wilf Simmonds Scholarship in Physiology*

<http://www.scholarships.uwa.edu.au/home/vacation/wilfsimmonds>

Discipline: Physiology.

History: The program has been a long established scholarship since the 1980s.



University of Tasmania

❖ **Menzies Research Institute:** *Undergraduate Research Opportunities Program (UROP)*

<http://www.menzies.utas.edu.au/article.php?Doo=Redirect&id=847>

Discipline: Sciences, particularly medical research.

History: The scheme has been in existence for approximately six years.

❖ **Faculty of Science, Engineering, and Technology:** *Summer Research Scholarships*

<http://fcms.its.utas.edu.au/scieng/scieng/newsdetail.asp?INewsEventId=2588>

http://fcms.its.utas.edu.au/files/committees/Application_Information_SRS_2009-10.pdf

Discipline: Science, engineering, technology.

History: The program first ran as Faculty-wide scheme in 2007, and complements other individual pre-existing schemes within the Schools.

❖ **School of Chemistry:** *Summer Research Scholarships*

http://www.utas.edu.au/chem/docs/Summer_Res_Scholar_Advert2009-10.pdf

Discipline: Chemistry.

History: The program has been in existence for eight years.

University of Technology, Sydney

❖ **Centre for Real-time Information Networks:** *CRIN Student Capstone Opportunities*

<http://www.crin.uts.edu.au/capstone/index.html>

Discipline: Information communication technology.

History: The program is a relatively recent initiative begun in 2008.

University of Wollongong

❖ **Faculty of Education:** *Summer Vacation Research Scholarships*

<http://www.uow.edu.au/educ/students/summerscholarships/index.html>

Discipline: Education.

❖ **Faculty of Informatics:** *Summer Vacation Research Scholarships*

<http://www.uow.edu.au/informatics/scholarships/UOW067204.html>

Discipline: Engineering (Electrical, Software, Computer, Telecommunications), Computer Science, Information Systems and Technology, Mathematics and Applied Statistics.



Appendix 2: Table of Programs

University	Scholarship Name	Est.	Offered By	Available to	Selection Criteria	Reward Amount	Duration	No. Awarded	Funded by	Administered by
Charles Sturt University	School of Animal and Veterinary Sciences Summer Scholarship	N/A	School of Animal and Veterinary Sciences (SAVS)	<ul style="list-style-type: none"> All undergraduate students with an interest in discipline areas of animal, equine, and veterinary sciences. Priority given to Australian citizens and permanent residents. 	Academic merit; referees; career goals and academic intentions.	Stipend of \$400 p/week up to a value of \$4,000.	Summer Vacation: maximum of 10 weeks.	2008: N/A 2009: 5	N/A	N/A
Charles Sturt University	Regional Archives Summer Research Scholarships	1997	Charles Sturt University Regional Archives (CSURA) collection	2 nd or 3 rd year undergraduate Charles Sturt University students, with a background in humanities, social sciences, or visual and performing arts.	Academic merit; career intentions; referees; suitability of the project to research interests of supervisors.	Tax-free allowance of \$3,000 paid in four instalments.	Summer Vacation: 8 weeks.	2008: 3 2009: 2	Faculty of Arts; School of Humanities; School of Social Sciences. Some additional external funding on occasion.	CSURA
Deakin University	The Bennett Summer Placement	N/A	Centre for Material and Fibre Innovation	<ul style="list-style-type: none"> Undergraduates enrolled in the BSc, B Engineering, or related degree who have completed the 2nd or 3rd year of the degree. 	N/A	\$3,000.	Summer Vacation: 3 months.	2008: 1	N/A	N/A
Flinders University	Summer Scholarships	2008	School of Midwifery and Nursing	<ul style="list-style-type: none"> An Australian citizen or permanent resident of Australia or New Zealand. Must have completed at 72 units of an undergraduate course offered by the School. 	Academic merit; demonstrated research ability.	Stipend of \$200 p/week.	Summer Vacation: maximum of 8 weeks.	2008: 6	School	School
Flinders University	Summer Scholarships	2000 (approx. 10+years)	National Institute of Labour Studies	<ul style="list-style-type: none"> Final year undergraduates at Flinders, accepted into or applied for the Honours program for the following year. Preference given to Australian permanent residents. 	Academic record; interview.	Stipend of \$450 fortnightly.	Summer Vacation: 7 weeks.	2008: 2	Institute	Institute
Griffith University	Eskitis Vacation Scholarship	2006 (approx.)	Eskitis Institute for Cell and Molecular Theories	<ul style="list-style-type: none"> Any 2nd or 3rd year undergraduate student enrolled in a Griffith University BSc program. 	Academic merit; intention to pursue Honours; intended career path towards research.	Lump sum payment of \$1,000.	Summer Vacation: 6 weeks.	2008: 10-15 2009: 10-15	Institute	Institute and central Undergraduate Scholarships Office.
Griffith University	Glycomics Summer Scholarships	2005	Institute for Glycomics	<ul style="list-style-type: none"> 2nd year science based undergraduate students at Griffith University 	Academic merit; application and interview.	Lump sum payment of \$750 paid at completion of research period.	Summer Vacation: minimum 4 weeks.	2008: 8	Institute	Institute
La Trobe University	Summer Vacation Scholarships	Unknown	Department of Chemistry	<ul style="list-style-type: none"> Undergraduate students enrolled at La Trobe university who have complete 60 credit points in Chemistry with an average mark of 65%. Students must have undertaken the 3rd year synthesis laboratory. 	Preference given to students undertaking the Honours program in the following semester.	Stipend of \$250 p/week; tax-free.	Summer Vacation: 4 weeks full-time.	2008: 0 2009: 2	Individual academics and their research grants.	Department
Macquarie University	Summer Vacation Research Scholarship in Physics, Photonics and	1999 (approx.)	Department of Physics and Electronic Engineering	<ul style="list-style-type: none"> 2nd/3rd year undergraduates from Australian/New Zealand universities. 	Academic Merit; suitability to research environment	Stipend of \$490 p/week; tax free; travel expenses for non-Sydney students	Summer vacation: 6-7 weeks, full-time.	2008: 2 2009: TBD (N.B. prior to 2008, usually 4 scholarships)	Base: Departmental. Extra: from individual research grants.	Postgraduate Studies Section
Macquarie University	CBMS Vacation Research Scholarship	Prior to 1999 (10 years+)	Department of Chemistry and Biomolecular Sciences	<ul style="list-style-type: none"> All undergraduates (1st-3rd year) studying Chemistry and the Biomolecular sciences. Australian/ International students, however preference is given to Macquarie students. 	Academic merit; students enrolled in Advanced Chemistry units automatically qualify for the scholarship.	Stipend of \$275 p/week; tax free.	Summer vacation: up to 4 weeks.	2008: 10-15 2009: TBD	Base: 10 are Departmentally funded. Extra: up to 5 from individual research grants.	Department
Macquarie University	Biology Summer Research Experience Scholarships	2004 (approx. 5years+)	Department of Biological Sciences	<ul style="list-style-type: none"> All Macquarie undergraduates (1st-3rd year) enrolled in biology programs. 	Academic merit.	Stipend of \$275 p/week; tax free.	Summer vacation: 2-10 weeks.	2006: 10 2007: 11 2008: 6 2009: TBD	Departmental.	Undergraduate Scholarships Office
Macquarie University	Vacation Scholarships	1999 (approx. 10 years)	Department of Computing	<ul style="list-style-type: none"> 2nd/3rd year computing undergraduates from Australian universities. 	Academic merit and suitability to research.	Stipend of \$350 p/week; tax free.	Summer vacation: 6-8 weeks.	2008: 5-6 2009: 5-6	Departmental	N/A

University	Scholarship Name	Est.	Offered By	Available to	Selection Criteria	Reward Amount	Duration	No. Awarded	Funded by	Administered by
Macquarie University	Vacation Scholarships	1994 (approx. 15 years+)	Department of Mathematics	<ul style="list-style-type: none"> 1st-3rd year undergraduate students at Macquarie University or another University who intend on continuing with mathematics in the following year. 1st years students at Macquarie University are required to have completed MATH133 or MATH 136. 	Academic merit (exam performance).	Stipend of \$350 p/week; tax-free.	Summer Vacation: 4 weeks	2008: 6 2009 TBD	Departmental and one 3 rd year student scholarship is funded by AMSI (<i>see External Bodies</i> table).	Department
Monash University	Vacation Scholarships	2006.	University – institution wide.	<p>An Australian or New Zealand citizen or holder of an Australian permanent resident visa or permanent humanitarian visa, or an international student.</p> <ul style="list-style-type: none"> Enrolled as a full-time undergraduate student at an Australian Higher Education provider, and normally have completed at least the second year of an undergraduate degree. Not an employee of Monash University. <p>Students must be enrolled full-time in the semester preceding and the semester following the vacation scholarship.</p>	Academic merit (highest grade average); Faculty of Engineering students must be in their penultimate year and have a minimum of a high distinction weighted average mark (80 per cent); students must have completed certain prerequisite coursework units.	Engineering: \$400 p/week; Accident research centre: \$350 p/w; Caulfield School of IT: \$250 p/w; Clayton School of IT: \$350 p/w; Anatomy & Developmental Biology: \$250 p/w; Biochemistry & Molecular Biology: \$250 p/w; Physiology: \$250 p/w; Geography & Environmental Science: \$400 p/w; Synchrotron Science: \$250 p/w; Chemistry: \$250-300 p/w; Geosciences: \$250-380 p/w; Mathematical sciences: \$380 pw/; Psychology & psychiatry: \$250 p/w.	Summer/ Winter Vacation: 4 - 12 weeks (variable from supervisor to supervisor).	2008: 200 (approx.)	University	Coursework Scholarships Unit
Monash University	Monash Undergraduate Research Projects Abroad (MURPA)	2008	Faculty of Information Technology (in conjunction with the University of California, San Diego [UCSD]).	<ul style="list-style-type: none"> Undergraduate students at Monash University who have completed at least 24 credit points of third year computer science, software engineering or technically-oriented IT units. Enrolled full time at Monash University in 2009 studying computer science or software engineering honours, or masters (minor thesis). <p>Students must have participated in the MURPA international research seminar series and completed an evaluation of the research seminars and a research proposal that specifies a research area of interest to the student and the professor with whom they wish to work.</p>	Academic merit; quality & commitment shown in research proposal; an interactive video interview with a desired UCSD research supervisor; evaluation by Monash MURPA mentors.	\$2,000, plus the potential for a \$2,500 Honours scholarship.	Summer Vacation: 8 weeks (in San Diego, USA).	2008: 5	\$1, 000 by MURPA; \$1, 000 by Monash Abroad Office	Faculty
The Australian National University	Summer Research Scholarships	Institution wide: 5 years (approx.). Prior to this individual schemes have been in existence for up to 25 years.	University – institution wide.	<ul style="list-style-type: none"> Final-year (3rd/4th year) undergraduate students enrolled in Australian and New Zealand universities and intending to begin an Honours year. Exceptional 2nd year undergraduates and undergraduates enrolled in an overseas institution. 	Academic merit; intention to undertake Honours.	Stipend of \$135 p/week; tax-free; all meals and accommodation provided; transport to Canberra provided.	Summer Vacation: 8-11 weeks.	2008: 150-170 2009: 150-170	University & School/Centre/ Faculty/College	University
The Australian National University	ANU/UniSA Summer Research Scholarships	2008	University in conjunction with the University of South Australia	<ul style="list-style-type: none"> 3rd year (or Final-year) undergraduate students enrolled in an undergraduate degree at ANU or UniSA. Exceptional 2nd year students may also be considered. Preference given to students in priority research areas. 	Academic merit; awards; non-academic achievements; capacity to identify a research group at the host institution in priority areas; interest in pursuing an Honours degree at ANU/UniSA; academic references.	Stipend of \$350 p/week; tax-free; accommodation provided; provision of up to \$1,000 for student travel to ANU/Uni SA.	Summer Vacation: 8 weeks.	2008: 10 (from each university) 2009: 10 (from each university)	University	University / RHD Recruitment

University	Scholarship Name	Est.	Offered By	Available to	Selection Criteria	Reward Amount	Duration	No. Awarded	Funded by	Administered by
The Australian National University	ANU/USQ Summer Research Scholarships	2009	University in conjunction with the University of Southern Queensland	<ul style="list-style-type: none"> 3rd year (Final-year) undergraduate students enrolled in an undergraduate degree at ANU or USQ. Exceptional 2nd year students may also be considered. Students in the field of Sustainability.	N/A	N/A	Summer Vacation: 8 weeks.	2009: 5 (from each university)	University	University
Murdoch University	VBS Summer Scholarships	2002	School of Veterinary and Biomedical Sciences	3 rd year undergraduate students (domestic and international) enrolled in units within the School. Students may only hold only one VBS summer scholarship for the duration of their degree.	Academic merit; intention to pursue Honours; career aspirations; merit of research proposal.	Lump sum on completion of the project, or instalments to the total amount of \$1,500; tax-free.	Summer Vacation: 6 weeks.	2008: 8	School	Research Degrees and Scholarships Office
Murdoch University	Summer Scholarships	2005 (approx.)	School of Chiropractic and Sports Science	3 rd year Undergraduate students, enrolled in units in the Division of Health Sciences	Academic merit; intention to pursue Honours; merit of research proposal.	Lump sum on completion of the project, or instalments to the total amount of \$1,500; tax-free.	Summer Vacation: 6 weeks.	2008: 3 2009: 3	School	Research Degrees and Scholarships Office
Queensland University of Technology (QUT)	Vacation Research Experience Scholarship (VRES)	2005	University – institution wide.	2 nd -final year undergraduate students currently enrolled at QUT.	Academic merit.	Minimum stipend of \$155 p/week; tax-free.	Summer Vacation: 6-10 weeks.	2008: 66 2009: N/A	University central research office base funding. Faculty provide any extra funding if it wishes to increase/extend student stipends.	Faculty.
RMIT University	Summer Research Scholarships		School of Electrical and Computer Engineering	Undergraduate students in their final year of study enrolled at any Australian university. Students may be local or international.	Academic merit; intended research project proposal.	Stipend of \$450 p/week; tax-free.	Summer Vacation: 12 weeks.	2008: 5-6 2009: 5	School (50%) and academic supervisors (50%).	School
Swinburne University of Technology	Summer Student Scholarships	Unknown	Centre for Complex Software Systems and Services	Undergraduate students from any Australian University, who will be continuing study in the year following the scholarship.. Average mark of 80+ in previous years.	Academic merit.	Stipend of \$400 p/week.	Summer Vacation: 10 weeks.	2008: 3 2009: 3	Centre and Faculty; occasionally from individual Centre research grants.	Centre
Swinburne University of Technology	Vacation Scholarships in Astronomy at CAS	2003	Centre for Astrophysics and Supercomputing	2 nd -3 rd year undergraduate BSc (or similar degree) students from Australian and New Zealand universities. Applicants outside of Australia and New Zealand with exceptional records may be considered.	Academic merit.	Stipend of \$500 p/week; return trip transport to Melbourne from destinations within Australia and NZ.	Summer Vacation: 6-10 weeks.	2008: 8 (5 domestic, 3 IAESTE) 2009: 9 (6 domestic, 3 IAESTE).	Faculty (40%), Centre (20%), and individual supervisor's research grants (20%).	Centre
The University of Adelaide	Adelaide Summer Research Scholarships (ASRS)	1999	University – institution wide.	3rd year undergraduate students enrolled at the University of Adelaide. 1 st & 2 nd year students may be considered in exceptional circumstances.	Academic merit; intention to pursue Honours; other prizes or scholarships; academic staff recommendation.	Stipend of \$200 p/week; tax-free. Anything beyond the specified duration must be funded by the Faculty/School.	Summer Vacation: 6 weeks.	2008: 60 (12 scholarships to each of the 5 Faculties).	50% by central university administration, 50% by Faculty.	University / Faculty
The University of Adelaide	Vacation Scholarships (Discontinued for 2009-2010)	1998	Faculty of Health Sciences	3rd year undergraduate students enrolled at the University of Adelaide.	N/A	Stipend of \$200 p/week; tax-free.	Summer Vacation: 6 weeks.	2004: 23 2005: 33 2006: 36 2007: 18 2008: 31 2009: 0 Discontinued	Medical research endowments	Faculty of Health Sciences Research Committee & Office of the Deputy Vice Chancellor & Vice President, Research.
The University of Adelaide	Vacation Scholarships	N/A	School of Molecular & Biomedical Sciences	2 nd year undergraduate students enrolled at the University of Adelaide or other local and international institutions in a relevant discipline.	Academic merit.	Stipend of \$200 p/week; tax-free.	Summer Vacation: 6 weeks.	2008: 14	School	School

University	Scholarship Name	Est.	Offered By	Available to	Selection Criteria	Reward Amount	Duration	No. Awarded	Funded by	Administered by
The University of Melbourne	Vacation Scholarships	N/A	Department of Mathematics & Statistics	Advanced 2 nd year or 3 rd year undergraduate students enrolled at the University of Melbourne, considering an Honours year or a Masters program.	N/A	Stipend of \$300 p/week; transport costs provided for students outside of Melbourne metropolitan area.	Summer Vacation: up to 6 weeks.	2008: 20 (approx.)	N/A	N/A
The University of Melbourne	Summer Studentships in Information Systems	2004 (approx. 5 years)	Department of Information Systems	Undergraduate information systems students at the University of Melbourne in their final year of study, intending to enrol or enrolled in the information systems Honours or Masters program.	Academic merit; research potential; alignment with Departmental research interests; research proposal; academic referees.	\$2,000; tax-free.	Summer Vacation: 8 weeks, 2-3 days p/week.	2007: 2 2008: 0 2009: 1	Department	Department
The University of Melbourne	Lundie Summer Research Scholarship (Discontinued in 2008)	2004 (Discontinued in 2008)	Department of Biochemistry and Molecular Biology	Undergraduate students enrolled in the Bachelor of Biomedical Science (BBiomedSc) at the University of Melbourne and have completed 100 points at first year and 100 points at second year, but not completed any third year subjects of this course.	Academic merit in the subject Integrated Biomedical Science I (521-213). Students who submit an outstanding written application with at least a H2B pass in 521-213 will be considered.	\$1,500 (in the form of a stipend of \$250 pw/week; tax free).	Summer Vacation: 6 weeks.	2004: 1 2005: 1 2006: 0 2007: 1	Department	Undergraduate scholarships office
The University of Melbourne	Bachelor of Science (Honours) Summer Vacation Scholarships	2005	Department of Medicine (Austin Health & Northern Health)	BSc and B Biomedical Science undergraduate students who have completed their final year and are enrolled in the Honours program for the following year. 3 rd year BSc Faculty Honours Score greater than 75.	Academic merit.	\$2,500; tax-free.	Summer Vacation: 6 weeks.	2006: 2 2007: N/A 2008: 4 2009: TBD	Department	Department
The University of Melbourne	Sir John Eccles Vacation Scholarships	2005	Department of Anatomy and Cell Biology	Any undergraduate science student enrolled at the University of Melbourne.	Academic merit; research experience.	\$1,000; tax-free.	Summer/ Winter Vacation: 4-6 weeks fulltime.	2008: 4 2009: TBD	Department	Department
The University of Melbourne	Summer Research Studentships	1997 (approx.)	Department of Chemistry	2 nd and 3 rd year Australian resident undergraduate students majoring in Chemistry.	Academic merit; previous research experience; application.	Stipend of \$300 p/week; taxable.	Summer Vacation: minimum 6 weeks.	2008: 20 (approx.)	Department	Department
The University of Melbourne	Summer Research Studentships in Optometry & Vision Sciences	2004	Department of Optometry & Vision Sciences	Undergraduate students, both to local and international students interested in pursuing an Honours year or graduate research.	Academic merit.	Stipend of \$235 p/week; tax-free.	Summer Vacation: 6-8 weeks.	2008: 2 2009: TBD	Department & National Vision Institute.	Department
The University of Melbourne	Summer Vacation Studentships	2006	Bio21 Molecular Science & Biotechnology Institute	3 rd year undergraduate or Honours students with a major in a science area.	Project proposal; academic merit; relevance of research to Bio21; previous lab or research experience; future aspirations.	Stipend of \$250 p/week; taxable.	Summer Vacation: 6-8 weeks.	2008: 5 2009: 5	Institute	Institute
The University of New South Wales	Undergraduate Research Opportunities Program (UROP)	N/A	Faculty of Medicine	2 nd year undergraduates onwards enrolled in a degree at UNSW, except Medical Students.	N/A	Casual hourly rate.	Year-round: minimum of 6 months; 8 hours p/week approx.	N/A	Faculty of Medicine and individual supervisor.	Departmental

University	Scholarship Name	Est.	Offered By	Available to	Selection Criteria	Reward Amount	Duration	No. Awarded	Funded by	Administered by
The University of New South Wales	Summer Research Scholarships	2001 (restructured in 2009)	Faculty of Science	All final year undergraduate students enrolled in a science program or related discipline at an Australian/New Zealand university. Must be residents of Australia/New Zealand.	Academic merit; ability, potential, and commitment to undertake research.	\$3,600 (= \$600 p/week).	Summer Vacation: 6 weeks.	2008: (6 per school?) 2009: 20	Faculty	Research Section of Faculty
The University of New South Wales	Exoplanetary Science Vacation Scholarships	2009	Exoplanetary Science Group, School of Physics.	3 rd year undergraduate or Honours students enrolled in Australian/New Zealand universities. Exceptional international students may also be considered.	Academic merit; references; other research experience.	Stipend of \$500 p/week; tax-free.	Summer Vacation: 6 – 10 weeks.	N/A	Exoplanetary Science Group research grants.	School
The University of New South Wales	Taste of Research Scholarships	2002	Faculty of Engineering (in conjunction with NICTA, <i>see External Bodies table</i>).	3 rd year undergraduate student (local or international) enrolled at UNSW or an Australian university. 2 nd year undergraduates may be considered in exceptional circumstances.	Academic merit; interest in the prospect of research activities; intended career plans.	Stipend of \$458 p/week; tax-free.	Summer Vacation: 12 weeks.	2008: N/A 2009: 55	Faculty and NICTA	Faculty
The University of Newcastle	Research in Micro Electro Mechanical Systems (MEMS) Summer Vacation Scholarship	N/A	ARC Centre of Excellence for Complex Dynamic Systems and Control (CDSC)	Undergraduate students enrolled in the Bachelor of Engineering (Electrical) program at Newcastle University.	Academic merit.	Lump sum of \$5,000.	Summer Vacation: 12 weeks.	2008: 1 2009: 1	Centre	Scholarships Office
The University of Newcastle	Faculty of Science and Information Technology Summer Vacation Scholarships	N/A	Faculty of Science & Information Technology	1 st -3 rd year undergraduate students enrolled full-time in any program offered by the Faculty.	Academic Merit (GPA); brief statement; research interests, future goals and aspirations.	Lump sum of \$2,000; \$1,500 up front, final \$500 on receipt of written statement of outcomes of the project and the Principal Supervisor's recommendation of the project's completion.	Summer Vacation: 6 weeks, full-time.	2009: 40.	Faculty	Scholarships Office
The University of Newcastle	Research in Structural and Functional Brain Imaging Study	N/A	Faculty of Science & Information Technology	2 nd /3 rd year undergraduates enrolled in a BSc at the University of Newcastle.	Academic merit; demonstrated aptitude and motivation for research project.	Lump sum of \$1,750.	Summer Vacation: 4 weeks.	2009: 1	Faculty	Scholarships Office
The University of Newcastle	Research in Biomedical Science Topics Summer Vacation Scholarship	N/A	School of Biomedical Sciences & Pharmacy	Undergraduates enrolled in the Bachelor of Biomedical Sciences program at the University of Newcastle.	Academic merit; preference given to those interested in laboratory based projects.	Stipend of \$125 p/week (\$1,000 paid over fortnightly instalments).	Summer Vacation: 8 weeks, full-time.	2009: 10	School	Scholarships Office
The University of Newcastle	School of Health Sciences Summer Vacation Scholarships	N/A	School of Health Sciences	3 rd year Undergraduates enrolled in a program within the School. Intention to pursue Honours in the following semester.	Academic merit (GPA); intention to pursue Honours; resume; brief statement; research interests, future goals and aspirations.	Stipend of \$125 p/week (\$1,000 paid over fortnightly instalments).	Summer Vacation: 8 weeks, full-time (100 hours total).	2009: 5	School	Scholarships Office
The University of Newcastle	University of Newcastle Summer Vacation Scholarships	N/A	University – institution wide.	3 rd year undergraduate students planning to undertake full-time Honours in the following semester, or undergraduates who have completed 3 years out of a 4year program.	Academic merit (cumulative GPA).	Stipend of \$125 p/week (\$1,000 paid over fortnightly instalments).	Summer Vacation: 8 weeks, full-time.	2009: 10	University	Scholarships Office

University	Scholarship Name	Est.	Offered By	Available to	Selection Criteria	Reward Amount	Duration	No. Awarded	Funded by	Administered by
The University of Newcastle	Centre for Brain and Mental Health Research Summer Vacation Scholarship – Research in Brain and Mental Health	N/A	Centre for Brain & Mental Health Research	Undergraduate students enrolled in a relevant degree program.	Project	Stipend of \$125 p/week (\$1,000 paid over fortnightly instalments).	Summer Vacation: 8 weeks, full-time.	2009: 4	Centre	Scholarships Office
The University of Newcastle	Biochemical Research Summer Vacation Scholarship	N/A	Faculty of Engineering & Built Environment	2 nd /3 rd year undergraduates enrolled in the Bachelor Engineering (Chemical) program.	Academic merit; laboratory experience.	\$4,000 paid in 5 payments of \$800.	Summer Vacation: 10 weeks.	2009: 1	Faculty	Scholarships Office
The University of Newcastle	Research in Geomechanics – Clays Summer Vacation Scholarship	N/A	Faculty of Engineering & Built Environment	Undergraduates enrolled in the Bachelor of Engineering (Civil) program at the University of Newcastle.	Academic merit; demonstrated aptitude and motivation for geomechanics.	Lump sum payment of \$1,200.	Summer Vacation: 4 weeks.	2009: 1	Faculty	Scholarships Office
The University of Newcastle	Research in Geomechanics – Landslider Summer Vacation Scholarship	N/A	Faculty of Engineering & Built Environment	Undergraduates enrolled in the Bachelor of Engineering (Civil) program at the University of Newcastle.	Academic merit; demonstrated aptitude and motivation for geomechanics.	Lump sum payment of \$2,000.	Summer Vacation: 6 weeks.	2009: 1	Faculty	Scholarships Office
The University of Newcastle	Research in the Use of Phase Changing materials to Enhance the Thermal Performance of Housing Summer Vacation Scholarship	N/A	Faculty of Engineering & the Built Environment	2 nd /3 rd year undergraduates enrolled in the Bachelor of Engineering (Chemical) program at the University of Newcastle.	Academic merit.	\$4,000 paid in 5 payments of \$800.	Summer Vacation: 10 weeks.	2009: 1	Faculty	Scholarships Office
The University of Newcastle	Summer Research Scholarship	N/A	Faculty of Engineering & Built Environment Summer Research Scholarship	Undergraduates enrolled in a program within the Faculty.	Academic merit.	Lump sum of \$5,000.	Summer Vacation (time not specified).	2009: 20	Faculty	Scholarships Office
The University of Newcastle	Research in Men, Depression, and Social Networks in Rural Communities Summer Vacation Scholarship	N/A	Faculty of Health	2 nd /3 rd year undergraduate enrolled in a Bachelor of Science program at the University of Newcastle.	Academic merit; demonstrated aptitude and motivation for research project.	Lump sum of \$1,000.	Summer Vacation: 4 weeks.	2009: 1	Faculty	Scholarships Office
The University of Newcastle	Research in Microvascular Flow in the Neonatal Guinea Pig Summer Vacation Scholarship	N/A	Faculty of Health	Undergraduate student enrolled in the Bachelor of Biomedical Sciences (Honours) program.	Applicant's experience in immunofluorescent techniques for the study of gasotransmitters in tissue sections.	Lump sum of \$2,000.	Summer Vacation: 10 weeks.	2009: 1	Faculty	Scholarships Office
The University of Newcastle	Research in Health Behaviour Summer Vacation Scholarship	N/A	Faculty of Health, Priority Research centre Health Behaviour	Australian citizen, permanent resident or holder of a Permanent Humanitarian Visa. 3 rd /4 th year undergraduates enrolled in a range of Science and Medicine degrees at the University of Newcastle.	Academic merit (GPA); intention to pursue further studies in research.	Stipend of \$500 p/week (in fortnightly payments).	Summer Vacation: 4-8 weeks.	2009: 7	Faculty	Scholarships Office
The University of Newcastle	Newcastle Business School Summer Vacation School	N/A	Newcastle Business School	Australian citizens, permanent residents, or holder of a Permanent Humanitarian Visa. Undergraduates enrolled full-time in various business related degrees at University of Newcastle.	Academic merit (GPA).	Lump sum of \$2,000, payable in two instalments of \$1,000.	Summer Vacation: 60 hours, spread over 11 weeks.	2009: 10	School	Scholarships Office
The University of Newcastle	Research in Neuroscience - Depression		School of Biomedical Science & Pharmacy	Undergraduates enrolled in the B Biomedical Science or B Psychology	Selection is based on candidate's previous experience with a particular scientific technique/model.	Lump sum of either \$2,000 or \$1,800 (2 scholarships available).	Summer Vacation: (time not specified).	2009: 2	School	Scholarships Office
The University of Newcastle	Research in Immunology Summer Vacation Scholarship	N/A	School of Biomedical Sciences & Pharmacy	Undergraduates enrolled in a program within the School.	Academic merit; interest in laboratory based research.	\$3,000 in 5 installments.	Summer Vacation: 10 weeks.	2009: 1	School	Scholarships Office
The University of Newcastle	Research in PRC for Asthma & Respiratory Disease Summer Vacation Scholarship	N/A	School of Biomedical Sciences & Pharmacy	Undergraduates enrolled in the B Biomedical Sciences program full-time at the University of Newcastle.	?N/A	Lump sum of \$600.	Summer Vacation: 2 weeks.	2009: 1	School	Scholarships Office
The University of Newcastle	Research in Empowering Electric Grids for Connecting Renewable Generators Summer Vacation Scholarship	N/A	School of Electrical & Computer Science	Undergraduates enrolled in a program within the School. Background in power systems.	Academic merit.	\$4,8000 stipend payable in fortnightly instalments.	Summer Vacation: 12 weeks.	2009: 1	School	Scholarships Office

University	Scholarship Name	Est.	Offered By	Available to	Selection Criteria	Reward Amount	Duration	No. Awarded	Funded by	Administered by
The University of Newcastle	Research in Immunology Summer Vacation Scholarship	N/A	School of Biomedical Sciences & Pharmacy	Undergraduates enrolled in a program within the School.	Academic merit; interest in laboratory based research.	\$3,000 in 5 installments.	Summer Vacation: 10 weeks.	2009: 1	School	Scholarships Office
The University of Newcastle	Research in PRC for Asthma & Respiratory Disease Summer Vacation Scholarship	N/A	School of Biomedical Sciences & Pharmacy	Undergraduates enrolled in the B Biomedical Sciences program full-time at the University of Newcastle.	N/A	Lump sum of \$600.	Summer Vacation: 2 weeks.	2009: 1	School	Scholarships Office
The University of Newcastle	Research in Empowering Electric Grids for Connecting Renewable Generators Summer Vacation Scholarship	N/A	School of Electrical & Computer Science	Undergraduates enrolled in a program within the School. Background in power systems.	Academic merit.	\$4,8000 stipend payable in fortnightly instalments.	Summer Vacation: 12 weeks.	2009: 1	School	Scholarships Office
The University of Newcastle	Research in Home Area Networking for Intelligent Electricity Networks Summer Vacation Scholarship	N/A	School of Electrical & Computer Science	Undergraduates enrolled in a full-time program within the Faculty of Engineering and Built Environment.	Academic merit, results in particular courses.	\$2,000 stipend payable in fortnightly instalments.	Summer Vacation: 8 weeks.	2009: 1	School	Scholarships Office
The University of Newcastle	Research in Managanes Oxides as Cathode Catalysts in Li-air Cells Summer Vacation Scholarship	N/A	School of Environmental & Life Sciences	Undergraduates enrolled full-time in a BSc or BSc (Hons) program, who have completed a major in chemistry.	Academic merit; demonstrated interest in research project; previous interaction with supervisor.	Lump sum of \$2,000	Summer Vacation: 12 weeks.	2009: 1	School	Scholarships Office
The University of Newcastle	Research in Medicinal Chemistry Summer Vacation Scholarship	N/A	School of Environmental & Life Sciences	Undergraduates enrolled within the School undertaking chemistry studies, with experience in organic and/or medicinal chemistry.	Academic merit; previous interaction with supervisor.	Lump sum of \$2,000.	Summer Vacation: 6 weeks.	2009: 1	School	Scholarships Office
The University of Newcastle	Research in Electrochemical Activity of Biochar Summer Vacation Scholarship	N/A	School of Environmental & Life Sciences	Undergraduates enrolled full-time in a BSc or BSc (Hons) program, who have completed a major in chemistry.	Academic merit; demonstrated interest in research project; previous interaction with supervisor.	Lump sum of \$2,500.	Summer Vacation: (time not specified).	2009: 1	School	Scholarships Office
The University of Newcastle	Research in the Rechargeable Alkaline Manganese Dioxide Cathode Summer Vacation Scholarship	N/A	School of Environmental & Life Sciences	Undergraduates enrolled full-time in a BSc or BSc (Hons) program, who have completed a major in chemistry.	Academic merit; demonstrated interest in research project; previous interaction with supervisor.	Lump sum of \$2,000	Summer Vacation: 12 weeks.	2009: 1	School	Scholarships Office
The University of Newcastle	Research in the use of Biochar for Environmental Remediation Summer Vacation Scholarship	N/A	School of Environmental & Life Sciences	Undergraduates enrolled full-time in a BSc or BSc (Hons) program, who have completed a major in chemistry.	Academic merit; demonstrated interest in research project; previous interaction with supervisor.	Lump sum of \$2,000	Summer Vacation: 12 weeks	2009: 1	School	Scholarships Office
The University of Newcastle	Research in Reproductive Biology Summer Vacation Scholarship	N/A	School of Environmental & Life Sciences / ARC Centre for Excellence	Undergraduates enrolled in the B Sc (Hons) or B Biotechnology (Hons) at the University of Newcastle.	Academic merit; experience in techniques relevant to the project.	\$1,000-\$1,500 payable in fortnightly instalments.	Summer Vacation: 6-8 weeks.	2009: 2	School	Scholarships Office
The University of Newcastle	Research in Reproduction, Endocrinology, Development and Aboriginal Maternal Health Summer Vacation Scholarship	N/A	School of Medicine & Public Health	Undergraduates enrolled in the BSc, B Biotechnology, B Medical Sciences or equivalent program at the University of Newcastle. Enrolling in an Honours program the following year in Science, Biotechnology, Medical Science, or chosen major in Art or Education.	Credit GPA; acceptance by Faculty into Honours program for the following year.	\$2,000 payable by \$200 instalments p/week.	Summer Vacation: 10 weeks.	2009: 3	School	Scholarships Office
The University of Queensland	Summer Research Scholarships	2008	University – institution wide.	2 nd , 3 rd , of Honours year undergraduates and masters coursework students enrolled at an Australian, New Zealand or international university	Academic merit; reasons provided for wanting to participate in the program; quality of the project proposal or availability of a suitable project/supervisor.	Stipend of \$300 p/week; tax-free; transport and accommodation costs provided for non-UQ students outside of Brisbane.	Summer Vacation: 6 – 10 weeks.	2008: 217 2009: TBD (at time of report UQ had approximately 600 applications, with the intention to award 450-500 scholarships).	Office of Undergraduate Education and participating School, research centre or institute.	Office of Undergraduate Education
The University of Sydney	Chemistry Summer Undergraduate Scholarships	2005	School of Chemistry	2 nd /3 rd year chemistry	Academic merit; preference given to students in the Faculty of Science Talented Student Program	\$2357 (=\$393 p/w); tax free.	Summer vacation: 6 weeks, full-time (35hrs p/week).	2008: 8 2009: TBD	School provides 50%of the stipend, the supervisor provide the other 50% out of their own research grants.	School

University	Scholarship Name	Est.	Offered By	Available to	Selection Criteria	Reward Amount	Duration	No. Awarded	Funded by	Administered by
The University of Sydney	School of IT & NICTA (National ICT Australia Limited) Summer Scholarships	2004 (approx. 5 years+)	School of IT (in conjunction with NICTA—see <i>External Bodies table</i>).	2 nd – 4 th year undergraduates (primarily 3 rd year students), and occasionally masters coursework students from Australian universities.	Academic merit (WAM above 75); interest in undertaking research activities; intended career plan.	\$5,500 (\$458 p/w); tax free.	Summer vacation: 12 weeks, full-time.	2008: 28 2009: TBD	NICTA (majority) and the School of IT (minority).	School
The University of Sydney	Summer Break Research Scholarships	2008	School of Civil Engineering	2 nd – 4 th year undergraduate students at the University of Sydney across all Faculties.	Academic merit (WAM above 75); significance and innovative potential of the project proposal.	\$4,500 (2 instalments of \$2,250).	Summer vacation: 12 weeks, full-time.	2008: 8 2009: TBD (5 applications)	School: J.W. and I.C.M. Roderick Research Fund	School/Research Office
The University of Sydney	Vacation Scholarships	1998	School of Mathematics & Statistics	1 st – 3 rd year undergraduate students from Australian and New Zealand universities. Must be residents of Australia/New Zealand. Preference to 3 rd year students considering Honours in the following year.	Academic merit; references; students may be suggested by academic staff.	Stipend of \$380 p/week; tax free.	Summer vacation: 6 weeks, full-time.	2008: 7 2009: 8	(2009) School: 6; AMSI: 2 (see <i>External Bodies table</i>).	School
The University of Sydney	Molecular & Microbial Biosciences (MMB) Summer Scholarships	1997	School of Molecular & Microbial Sciences	2 nd – 3 rd year undergraduate students at the University of Sydney across all Faculties.	Academic merit; personal statement.	\$1,250; tax-free	Summer vacation: 4-6 weeks, full-time	2008: 10 2009: 10	School	School
The University of Sydney	Vacation Scholarships	1994 (approx. 15 years)	School of Physics	All undergraduate students enrolled in the physics program at the University of Sydney.	Academic merit; previous research experience; preference given to senior students or those enrolled in the Faculty of Science Talented Student Program.	Stipend of \$500 p/week; tax-free.	Summer vacation.	2008: 39 2009: TBD	School	School
The University of Sydney	Complex Systems Scholarships	2003 (approx.)	School of Physics – Complex Systems Group	1 st – 4 th year undergraduate students at the University of Sydney.	Academic merit; research experience; desired research area; funding availability; supervisor agreement.	Stipend of \$350 p/week pro rata fulltime basis to a maximum amount of \$2,100; or to a maximum of \$1,600 on a part-time basis.	Year-round: fulltime 6 weeks; part-time 4 hours p/week for up to 40 weeks; the maximum duration of 1 year.	2008: 1 2009: 1	Complex Systems Group research grants.	School
The University of Sydney	University of Sydney Medical School Summer Research Scholarship Program	2004	Faculty of Medicine (Sydney Medical School)	All undergraduate students enrolled in a science or medical degree in any university. Students enrolled in the Sydney Medical Program.	Academic merit; suitability for a research project.	Stipend of \$225 p/week; tax-free.	Summer vacation: 8 weeks maximum.	2004 & 2005: 90 2006: N/A 2007: N/A 2008: 60 (approx.) Total to date: 251	Two-thirds by the Faculty; one-third by the host research institution/hospital.	School Office of Research & Research Training
The University of Sydney	Summer Vacation Scholarships	2005	Faculty of Pharmacy	2nd and 3rd year undergraduate students. Preference will be given to 3rd year. Students (local and international) must be currently enrolled full-time in an undergraduate pharmacy, science, medical or equivalent physical or natural science degree in Australian and New Zealand universities.	Academic merit; quality of the application; interview by panel.	Stipend of \$200 p/week; tax-free (subject to ATO conditions).	Summer Vacation: 8 weeks.	2008: 12-14 2009: TBD	Faculty	Faculty
The University of Western Australia	Vacation Scholarships	2007	Department of Astronomy & Astrophysics	3 rd year undergraduate Australian students who have concluded a degree in physics, astronomy, computing, engineering, mathematics, or other related area.	Academic merit	Stipend of \$250 p/week; tax-free; transport and accommodation costs provided for inter-state students.	Summer Vacation: 6 weeks.	2008: 3 2009: 8 (on offer)	Department	University (for UWA students); Department (for non-UWA students).
The University of Western Australia	Biomedical, Biomolecular, and Chemical Sciences Summer Vacation Scholarships	2004 Not offered in 2009	School of Biomedical & Chemical Sciences	Undergraduate students who will qualify to undertake Honours or postgraduate research by majoring in biochemistry, chemistry, genetics, microbiology, molecular biology or physiology in the School at University of Western Australia. Medical students intending to enrol in a Bachelor of Medical Science at the UWA.	Academic merit.	\$1,500 (\$1,000 paid during the project, \$500 at the completion of the project).	Summer vacation: 6 – 10 weeks.	2008: 4 2009: 0	Bequest	School
The University of Western Australia	Rotary Club of Thornlie Helen Hosking Vacation Scholarship in Biochemistry	1990	School of Biomedical & Chemical Sciences	Undergraduate students at UWA who have completed a major in Biochemistry.	Academic merit.	\$1,500 (\$1,125 paid during the project, remaining amount paid on presentation of report).	Summer vacation: 6 – 8 weeks.	2008: 1 2009: 1	Bequest	School

University	Scholarship Name	Est.	Offered By	Available to	Selection Criteria	Reward Amount	Duration	No. Awarded	Funded by	Administered by
The University of Western Australia	Ivan T. Oliver Vacation Scholarship in Biochemistry	1989	School of Biomedical & Chemical Sciences	<ul style="list-style-type: none"> Undergraduate students at UWA who have completed BIOC2201 Biochemistry of the Cell and BIOC2202 Biochemical Regulation of Cell Function or a major in Biochemistry. 	Academic merit.	\$1,500 (\$1,125 paid during the project, remaining amount paid on presentation of report).	Summer vacation: 6 – 8 weeks.	2008: 1 2009: 1	Bequest	School
The University of Western Australia	Nanotechnology Summer Vacation Scholarship	2008	School of Biomedical & Chemical Sciences	<ul style="list-style-type: none"> Undergraduate students who are citizens or permanent residents of Australia, and currently enrolled full-time in a Bachelor of Science degree at UWA and majoring in Chemistry or Nanotechnology. Students must meet the criteria to be offered a place in the Honours program in Chemistry or Nanotechnology in the School of Biomedical, Biomolecular and Chemistry Sciences. 	Academic merit.	Stipend of \$600 p/week equal to \$4,800 total (tax-free??).	Summer vacation: 8 weeks.	2008: 1 2009: 1	School	School
The University of Western Australia	Wilf Simmonds Scholarship in Physiology	1980s	School of Biomedical & Chemical Sciences	<ul style="list-style-type: none"> Undergraduate students enrolled as full-time students at UWA, who have successfully completed at least two years of study in the discipline of Physiology. 	Academic merit.	Variable.	Summer vacation: 6 – 8 weeks.	2008: 1 2009: 1	Bequest	School
The University of Western Australia	Medicine & Dentistry Summer Vacation Scholarship	2003	Faculty of Medicine, Dentistry, & Health Sciences	<ul style="list-style-type: none"> All undergraduate students at the UWA enrolled in MBBS, BDS, BHLthSc and BPodMed degrees. Preference given to students intending on pursuing Honours. 	Intention to pursue Honours	\$2, 000.	Summer Vacation: 6 weeks.	2008: 6	Public bequests to the Faculty.	Faculty Office.
University of South Australia	High Achiever Vacation Research Scholarships	N/A	University – institution wide.	2 nd , 3 rd , Honours year undergraduates from UniSA.	Academic merit; availability of a research supervisor in desired area of interest.	Stipend of \$300 p/week; tax-free.	Summer Vacation: maximum of 8 weeks, divisible into two blocks.	2008: 2009:	N/A	Graduate Studies Office
University of South Australia	UniSA-ANU Vice Chancellor's Summer Research Scholarships	2008	University – institution wide.	3 rd or final year full-time undergraduate students enrolled at UniSA.	Academic merit; awards and prizes; academic and non-academic achievements; demonstrated interest in pursuing Honours at UniSA or ANU; academic supporting documents.	Stipend of \$300 p/week; tax-free; paid accommodation; travel expenses up to \$1,000.	Summer Vacation: 8 weeks.	2008: 10 2009: 10	N/A	N/A
University of Tasmania	Undergraduate Research Opportunities Program (UROP)	2004 (approx).	Menzies Research Institute Tasmania	2 nd year undergraduate students onwards, currently enrolled at the University of Tasmania.	Academic merit; enthusiastic application; availability of suitable projects; interview; intention to pursue research as a career either incorporated into clinical practice or as a full time scientist.	Lump sum payment of \$2,500 at commencement, and \$2,500 at completion and receipt of report; taxable.	Summer Vacation – Semester: 10 weeks.	2008: 7 2009: 8	University; occasionally research funds from individual researchers.	Institute
University of Tasmania	Summer Research Scholarships	2007	Faculty of Science, Engineering and Technology	Undergraduate students from the University of Tasmania about to undertake their final year of studies within the Faculty.	Academic merit.	Stipend of \$500 p/week (\$3,000 over 6 weeks).	Summer Vacation: 6 weeks.	2007: 22 2008: 0 2009: 18	Faculty and Schools.	Faculty
University of Tasmania	Summer Research Scholarships	2001	School of Chemistry	Undergraduate students who have completed 1 st or 2 nd year of a BSc, B Biotech or BEnvSc, or agree to enrol in chemistry major for the following year, or are enrolled in both KRA331, 332, or 300 and 306.	Academic merit; brief statement.	Stipend of \$350 p/week; tax-free.	Summer Vacation: minimum of 4 weeks.	2008: 6 2009: 6	School (4 scholarships) and by the external body, Tasmanian Alkaloids (2 scholarships). Research groups may extend the scholarship with their own funding.	School
University of Technology, Sydney	CRIN Capstone Projects	2008	Centre for Real-time Information Networks	Final year engineering undergraduates enrolled at UTS in the capstone unit.	First come first served basis; academic merit; research topic.	Lump sum payment of up to \$1,000 on completion of the project; taxable.	During semester.	2009: 7	Centre	Centre

University	Scholarship Name	Est.	Offered By	• Available to	Selection Criteria	Reward Amount	Duration	No. Awarded	Funded by	Administered by
University of Wollongong	Summer Vacation Research Scholarships	N/A	Faculty of Education	<ul style="list-style-type: none"> • Students must be enrolled in a course of study at the University of Wollongong, which can lead to an Honours or higher research qualification. • Students must be Australian citizens or permanent residents of Australia. • Students must have completed a minimum of 3 years of an undergraduate degree at a standard acceptable (WAM of 75+) for admission to an Honours course and be planning to apply for Honours in 2010, or completed an Honours degree and applied for a higher degree research program within the faculty in 2010. 	N/A	\$2, 0000	Summer Vacation: 10 weeks.	2008: 5 2009: 5	Faculty	Faculty
University of Wollongong	Summer Vacation Research Scholarships	N/A	Faculty of Informatics	<p>Students must be high achieving undergraduate students who are enrolled full-time and have completed at least two years of study.</p> <p>Students must be enrolled in a relevant program at UOW or another Australian University.</p> <p>The scholarships are open to both local and international students.</p>	Academic merit; additional selection criteria other than the eligibility requirements may be used.	Stipend of \$300 p/week.	Summer Vacation: 10 weeks.	2008: 12 2009: 12	Faculty	Faculty

Appendix 3: Externally Funded Programs

Note: Internet addresses were correct at the date of this report, but note that some websites only operate at specific times in the year.

1. CSIRO: Vacation Scholarships:

<http://www.csiro.au/org/vacation-scholarship-scheme.html>

2. Australian Mathematical Sciences Institute (AMSI)

<http://www.amsi.org.au>

3. National Information Communication Technology Australia (NICTA)

http://www.nicta.com.au/education/scholarships/queensland_research_lab/summer_scholarship_program

4. Australian Heart Foundation

<http://www.heartfoundation.org.au/SiteCollectionDocuments/Summer%20Scholarship.pdf>

http://www.heartfoundation.org.au/Professional_Information/Research/Available_Funding/Summer_Scholarships/Pages/default.aspx

5. Cancer Council (Victoria)

http://www.cancervic.org.au/downloads/research_RMU/STU_application_form.doc

http://www.cancervic.org.au/about-ourresearch/biomedical_research/apply_for_funding/research_sum_vacation_studentships/#

6. Cancer Council (Western Australia)

http://www.cancerwa.asn.au/research/successfulresearchfunding/vacation_scholarships/

❖ Edward and Patricia Usher Student Vacation Research Scholarship

<http://www.cancerwa.asn.au/research/successfulresearchfunding/vacationscholarshipsuccessfulrecipients/>

<http://www.cancerwa.asn.au/research/funding/usher/>

7. Kidney Health Australia

<http://www.kidney.org.au/HealthProfessionals/MedicalResearchFundingProgram/tabid/633/Default.aspx>

8. Peter Mac (in conjunction with Cancer Council Victoria)

<http://www.petermac.unimelb.edu.au/Research/SummerScholarshipProgram>



9. National Vision Research Institute (in conjunction with University of Melbourne, Dept. of Optometry and Vision Sciences)

<http://nvri.optometry.unimelb.edu.au/nvri/future.html>

<http://www.optometry.unimelb.edu.au/research/studentships.html>

10. Multiple Sclerosis Research Australia (MSRA)

Pdf of application form:

http://www.msaustralia.org.au/msra/research/documents/SummerVacation2008-2009scholarships_000.pdf

11. eResearch SA:

http://www.eresearchsa.edu.au/for_researchers/training/scholarships

12. TQEH Research Foundation:

<http://www.tqeh.sa.gov.au/public/content/default.asp?xcid=1064&>

<http://www.tqeh.sa.gov.au/repositories/files/VacAdvice-applicants2010.pdf>

13. Lung Institute of Western Australia (LIWA)

http://www.liwa.uwa.edu.au/education/honours_programs/vacation_scholarships

14. Asthma Research Foundation of Western Australia

❖ Vi Watson Vacation Scholarships

<http://www.asthmawa.org.au/pdfs/Guidelines%20for%20Research%20Applicants%202010.pdf>

http://www.asthmawa.org.au/research_grants.php

15. Australian Pork Limited:

❖ Undergraduate Research Scholarship

<http://www.australianpork.com.au/pages/images/Undergraduate%20Research%20Scholarship.pdf>

❖ Ron Pollard Undergraduate Scholarship Award

<http://www.australianpork.com.au/pages/page43.asp>

<http://www.australianpork.com.au/pages/images/Ron%20Pollard%20Undergraduate%20Scholarship%20Award.pdf>



- 16. Department of Commerce – Western Australia**
 - ❖ Science and Innovation Studentship Awards
http://www.commerce.wa.gov.au/ScienceInnovation/Content/Programs/Science_and_Innovation_Student.html
- 17. Queensland Institute of Medical Research**
 - ❖ Summer Vacation Studentships
<http://www.qimr.edu.au/study/scholSumm.html>
http://www.qimr.edu.au/study/studentship_application.pdf
- 18. Plant Energy Biology ARC Centre for Excellence**
 - ❖ Vacation Scholarships
http://www.plantenergy.uwa.edu.au/aboutus/vacation_scholarships.html
- 19. Australian War Memorial**
 - ❖ Summer Vacation Scholarships
<http://www.awm.gov.au/research/grants.asp>
http://www.awm.gov.au/research/grants_faq.asp
- 20. Australian Gemini Office / Astronomy Australia Ltd**
 - ❖ Australian Gemini Undergraduate Summer Studentships
<http://ausgo.aao.gov.au/aguss.html>
- 21. International Centre for Radio Astronomy Research (Perth)**
 - ❖ Astronomy Summer Internship in Partnership with NVIDIA
<http://www.icrar.org/scholarships>
- 22. The Garvan Institute:**
 - ❖ Undergraduate Research Opportunity Program (UROP)
http://www.garvan.org.au/pdfs/postgraduate-research/urop/faq_garvan_urop.pdf
<http://www.garvan.org.au/education/undergraduate-research-opportunity-program-urop.html>



23. Bio21 Institute:

- ❖ Undergraduate Research Opportunity Program (UROP)

<http://www.bio21.com.au/urop.asp>

24. National Program for Sustainable Irrigations:

- ❖ University Student Vacation Program

<http://npsi.gov.au/news/2009/oct/15/university-student-vacation-scholarship-program>

25. Prince Henry's Institute:

- ❖ Vacation Scholarships

<http://www.princehenrys.org/student-scholarships>

26. Water Quality Research Australia:

- ❖ Summer Research Scholarships

<http://www.wqra.com.au/education/Summer0809/Summer0809.htm>

27. Australian Centre for Plant Genomics

- ❖ Summer Scholarships

<http://www.acpfg.com.au/index.php?cx=gradsummer&dx=x&ex=scholarships>

28. Howard Florey Institute

<http://www.florey.edu.au/students/scholarships-and-awards/>

29. Food Standards Australia New Zealand (FSANZ)

- ❖ Student Projects Initiative:

<http://www.foodstandards.gov.au/aboutfsanz/studentprojects.cfm>

http://www.foodstandards.gov.au/_srcfiles/Student%20Project%20List%20-.pdf

30. National Archives of Australia:

- ❖ Summer Scholarship:

<http://www.naa.gov.au/about-us/research-grants/summer-scholarship/index.aspx>

