

New Vice Chancellor presents prizes at First Australasian Conference of Undergraduate Research

The new Macquarie University Vice-Chancellor, Professor Bruce Downton had only been in office for a week when he came to present the prizes at the First Australasian Conference of Undergraduate Research. This support signalled high level recognition for the event. Following the prize-giving, Professor Downton presented some personal reflections to students, staff and supporting delegates. He spoke of the sense of wonder that scientific research engenders. Highlighting the work and achievements of Professor Adrian Lee who donated the prize for the best paper, he stressed the importance of integrating research and teaching. He summed up the importance of undergraduate research when he said: *"I commend you all; your energies and efforts. The world needs people with inquiring minds; . . . who will inquire about the state of humankind on the planet; who will inquire about the planet itself; who will inquire about what is right and what is wrong. So I'm delighted to be here."*

The Conference was established to highlight the range of research work undertaken by undergraduates across Australia; to provide a forum for undergraduate researchers to present their work; to create a community of undergraduate researchers and to establish Macquarie University as a leader in encouraging undergraduate research. However, when we started to plan for it, we had no idea of the level of interest that the conference would generate.

On 20th September 2012, over 220 students and their supervisors and supporters came together to present and hear about the research carried out by undergraduates. The 130 spoken presentations and posters at the conference covered a broad spectrum of academic subjects including some film and drama. Topics ranged from medical research to ancient history to climate change. There were a number of fascinating presentations on planets and space. Literature was also well represented. For example, Blake's poems of Innocence and Experience were examined from an ecological perspective, and a number of social, identity and gender issues were addressed. Biology was also well represented as was psychology, law and so much more.

In her opening comments Professor Angela Brew spoke of the rigorous process of review that the presentations had undergone. Blind reviews of submitted abstracts

had been conducted by a panel of 28 subject experts and careful checks had been made to ensure students' eligibility to present.

Presentations by academics were kept to a minimum. However, the presence in Australia of two of the world's experts on undergraduate research, was too good an opportunity to miss. In his introductory keynote Professor Mick Healey put the conference in an international context. He spoke about the variety of undergraduate research experiences internationally and gave some aspirations for the future of undergraduate research in Australasia. Professor Mike Neary of the University of Lincoln offered some closing reflections. He said that undergraduate research demystified academic work in the university. It was important he said, to acknowledge similarities between disciplines because coming together to talk of common experiences is a way to begin to see the university as a radical social project leading to new forms of citizenship.

Prizes

In order to be eligible for the prize for best paper, students were provided with the opportunity to submit a paper. Again, following a rigorous process of blind peer review, the Steering Group decided to offer first prize of \$1000 to Emilia Wisniewski from the University of Melbourne for her paper "Sedimentation tank design for rural communities in the hilly regions of Nepal". Her research addresses a pressing social problem: how to design a container for remote villages that collects dirty water and gets rid of impurities to make clear drinking water.

The runner up, was Gurion Ang from the University of Queensland. His paper "Ménage à trois: The problem with three-way interactions involving predatory wasps" explained technical issues so clearly that when presented, generated many questions from the audience which he answered knowledgeably and with a dose of humour. Cabbage-white caterpillars are responsible for loss of crop yield in relation to cabbage-like plants. The wasps Gurion studied lay their eggs in such caterpillars, eventually killing them, so this research is important in understanding pest control.

The paper by Cory Bill from Macquarie University came third. He had a difficult job in his presentation to explain some fundamentals of English grammar to an audience of English speakers! Nevertheless, his presentation "'Her is going to bed now': Investigating input-based explanations of why children produce non-nominative subjects" was engaging and informative and his paper, like that of the other finalists



Professor Angela Brew talks to Macquarie University's Vice Chancellor following the prize-giving

was also very well written. The best papers will soon be published in "Macquarie Matrix" Volume 2, Issue 2. This is the Macquarie University undergraduate research journal (Available at: <http://studentjournal.mq.edu.au/about.html>)

National Information Communication Technology Australia (NICTA) donated \$500 for the best presentation in computer science/electrical engineering. This was won by first year student Ling Luo from the University of Sydney for her poster: "Cognitive Load Measurement through Muscle Actions".

A peer review process at the conference resulted in prizes of book vouchers donated by the Coop bookshop for the best poster being won by Laurie-Ann Keller of Macquarie University for her poster: "He's sexy and he knows it: Using harlequin bugs to investigate links between the design and presentation of iridescent signals" and the prize for the most interesting poster was won by Jessica Durham of Monash University for her poster: "Lesbian mermaids? The Vagina Monologues runs aground".

Evaluation

Commenting on the presentations, delegates indicated that they were astonished at the high quality of the research and the professional way students from universities across Australia and New Zealand presented it. Indeed, the conference is already being hailed as one of the highlights of the Australasian academic calendar. When asked in the evaluation "What was the most valuable thing you gained from the conference?" students pointed to the value of talking to people about their research, the value of undergraduate research, the opportunity to present their work and to network with other students. The following comments were typical:

"The opportunity to present research discoveries to the greater public and other students. Also of great value, was networking with other academics and students as

well as receiving (and exchanging) alternate perspectives for further study."

"Meeting people, great conversations with like minded people. Also learnt so much because of the wide range of disciplines. Renewed inspiration and hope in undergraduate research."

When asked what actions they will take as a consequence of attending the conference, delegates indicated that they would encourage their teachers and other academics in their university to integrate more research into the undergraduate curriculum. Some students indicated that they had been inspired to continue into Honours or to carry on into postgraduate research next year.

Key to the success of the conference were the numerous volunteer helpers. Ademir Hajdarasic, Amy Butschek and Alyce McClymont set up a Facebook page which ensured that lively discussions took place even before the conference, and some of the volunteers kept the conversation going on Twitter during the conference. Many of the volunteers on the day were first year Macquarie students. Resplendent in their purple T-shirts donated by Netspot, they set up the conference, manned the reception desks, put up the posters and, importantly, chaired and kept time in the sessions. Some delegates commented that the chairing of sessions was better than that at many academic conferences!

This is clearly a significant event in the life of Australasian higher education that has 'touched a nerve'.

Students' appreciation for the conference is summed up in an email sent by one of them: *"As a first year student, I was so honoured to be given an opportunity to present my research to students and other visitors at a conference. I was also inspired by other presenters' enlightening presentations and have learnt some new information on different topics and methods of research I can apply to future research. This has been a significant highlight of my first year at university and I would like to thank you for organising and making possible this great conference."*

Personal Reflections on Undergraduate Research Program

Ademir Hajdarasic, Undergraduate scholar, Macquarie University

Ademir has been working to interview students at Macquarie University about their experiences of research in the university and interviewing students in other universities about their experiences with paid undergraduate research experience programs. Here he offers his personal reflections on what he has learnt from this. A video of Ademir talking about his experiences can be found on the undergraduate research website.

"It's difficult for me to describe in a brief way my experiences in undergraduate research programmes. I could talk at considerable length about them, but I'll try to be brief as I can.

I guess the first thing I would say is that it taught me a range of skills. Research techniques, like doing literature reviews, learning how to quickly determine what is relevant and what isn't. I never had to do so much research for my undergraduate essays and it's taught me to be rather economical and organised. My degree is in law and history, and working in higher education research taught me how to do totally different kinds of research such as interviews and questionnaires. I feel like knowing these methodologies, having this interdisciplinary experience gives me a bit of an edge over those who only know how to do internet or archival research.

I also learned how to write pieces for different audiences, from reports to academic articles to promotional pieces for a newsletter, all of which were definitely a challenge, but a rewarding challenge compared to writing undergraduate essays, which generally just require me to state what I know. I didn't feel like any of these skills were specific to my studies or academic work, but that I could take them with me anywhere.

Probably more important from my perspective was the personal growth which I feel will benefit me wherever I decide to go. I'm generally a very shy public speaker and don't always feel confident enough to voice my own opinion in forums where I'm not the expert, but explaining my research to others, attending professional meetings and giving presentations to seasoned academics and defending my point of view has helped me to slowly but surely change that, although the process is still underway. This has translated into greater success in my undergraduate studies, as I've been better able to do group work and even lead groups. Similarly, knowing that people depended on me to get my work done on time and that more was at stake than just my grades really inculcated a sense of responsibility and pride. I think it's obvious how all of this will help me in the future. I'll be the first to admit I wasn't terribly organised as a student but that has changed immeasurably as a result of being an undergraduate researcher. Contributing to a broader project of transformation in the university and achieving tangible results was also enriching and rewarding. For example, I helped to organise the first Australasian Conference of Undergraduate Research and even though I only played a small part, seeing those students give their presentations made me feel somewhat proud and like what I was doing mattered. This in turn boosted my confidence in a kind of snowballing effect.

I also have become acculturated to the academic life. I became used to the idea that I was part of a community of scholars, a junior academic even. It didn't feel like work, it felt like I was being paid to do what I love, to create new knowledge. This boosted my confidence further as well as my drive to pursue an academic career. The mentoring relationship that I developed with my

supervisors was extremely beneficial, preparing me to navigate the academic world in a variety of ways, imparting new skills and providing me with career advice. I hate the isolation that often comes with doing essays alone and although my undergraduate research programme did involve some isolating experiences, the mentorship and discussions with colleagues who reflected on their own experiences, whether as PhD students or as academics, always counteracted this and made me more motivated. Funnily enough, this process of acculturation probably isn't just beneficial in terms of academia. There are those practical things you just don't learn how to do in class like professional etiquette, really working in a team and networking. You just don't get these things until you experience them first hand. I want to become an academic eventually, but I know I can take everything I've learned and my growth as a person with me into any career I might pursue."



Ademir Hajdarasic interviews a student at Macquarie University

Bachelor of Philosophy (Hons) at UWA

Jenna Mead, The University of Western Australia

Background

In January 2012, the University of Western Australia enrolled students in the first intake of New Courses 2012: the University's complete overhaul of its undergraduate course program¹. Students choose to enrol in one of four mainstream undergraduate degrees in Arts, Science, Design or Commerce that is structured around a degree-specific major and encourages breadth of choice and the opportunity for supported Study Abroad/Exchange programs. Students may then enroll in a professional degree (Cycle 2) as graduate students; entry to Cycle 2 is regulated by a set of pre-requisites.

Structure

The Bachelor of Philosophy (Hons) degree is a fifth option that sits between the other mainstream degrees. This is an undergraduate research-training degree in which students also choose a major from one of 76 majors and complete 4 broadening units. In addition, BPhil students undertake a series of research-intensive activities in Years 1-3; complete at least one unit of a language other than English or a second language if the major happens to be a language; undertake a financially supported, semester-length study abroad program; need to maintain an average 80+ in 6 out of 8 units (years 1-2) and 75+ in year 3. Arriving at fourth-year Honours, students have completed three years' targeted research training.

Admission

Entry to the BPhil (Hons) is via a single criterion: school-leavers need an ATAR of at least 98 to be competitive for one of the 30 main cohort places. There are 10 places available for diversity and equity students: from regional and remote areas, lower social economic backgrounds and international students. Ten additional places are available at the end of 48 points (in effect, the end of first year) for students with a Weighted Average Mark (WAM) is 80+, should they choose to join the degree. In these respects, BPhil is analogous to the PhB offered in Science and Arts at ANU² and Arts & Science³ at McMaster University, Ontario. In name and spirit, it recalls the BPhil offered at Oxford as a postgraduate research degree.⁴

Confounding Stereotypes

UWA admitted 42 students in the 2012 cohort who confounded many stereotypes: male to female ratio of approximately 2:1; about 60% of the cohort (mixed) is enrolled in majors offered within the BSc; Humanities students who entered the degree with outstanding results continue to excel; government and catholic schools have produced about 50% of the cohort; more than 95% of the cohort have had exposure to a language other than English; competitive sport, music and performance feature highly as other interests; many students also have part-time jobs — usually as academic tutors. This cohort includes recipients of Go8 Equity Scholarships; the lower socio-economic equity sub-quota was filled; although the invitation was declined, UWA did offer a place to one Indigenous student without, at this stage, the benefit of a lead-up program.

Undergraduate Research Training

BPhil (Hons) students all complete a foundation unit in semester 1 of year 1 comprising a model for undergraduate research training, adapted by Lee Partridge and Sally Sandover for the ULTRIS program.⁵ This unit has a global focus and aims to teaching students "To think like a researcher."

Students develop a collaborative research project from drafting a proposal to conducting research, developing a paper and presenting at a Colloquium. Readers in the scholarship of teaching and learning (SoTL) will recognize, many of the features Angela Brew has headlined as part of undergraduate research training. Sally Sandover and Lee Partridge presented a paper on the challenges of adapting a co-curricular program like ULTRIS for application in a mainstream unit, such as that required for BPhil, at the recent ISSoTL12 conference.⁶

Learning in BPhil (Hons) is supported by a purpose-built Learning Management System made up of 2 separate units: one focused directly on the first year unit and the other which supports a community of learners and extends over the four years' enrolment in the program. Undergraduate research training is carefully scaffolded with a reflective blog, self- and peer assessment tools and a range of resources uploaded to LMS to replicate research protocols: the interface itself is a learning experience. The 2013 site will challenge students to present and publish their work online and at conferences.



BPhil (Hons) students crossing over to a new degree

The BPhil Vibe

A major driver in students' *learning to think like a researcher* is the experience of working in a collaborative group. Undergraduate research training in BPhil (Hons) is part of the larger culture of research at UWA and shares the same ideal.

As Professor Robyn Owens, Deputy Vice-Chancellor (Research) expresses it:

Research produces new knowledge in *any* field and socializes it by *sharing* with the broader community. UWA is a research-intensive university with a strong *collaborative* research culture that *contributes* to local and global communities.⁷ ... *continued overleaf*

There's an essential reciprocity that follows from this idea of research. Academic and professional researchers will mentor, supervise and advise but BPhil (Hons) students are also major players in the development of this degree. Their experiences, feedback, evaluation, engagement and research outputs will shape undergraduate research training at UWA. As they progress through each phase, they will make history and it will be fascinating to watch what they do and how they do it.



BPhil (Hons) student 2012 — Blooming with the Vice-Chancellor

Footnotes

¹<http://www.newcourses2012.uwa.edu.au/>

²<http://studyat.anu.edu.au/programs/4660HPHB;overview.html>

³<http://arts.os.mcmaster.ca/>

⁴http://www.admin.ox.ac.uk/examregs/15-35_General_Regulations.shtml

See also c. 1427 MS B1/3960 John Arundel's Logic Notebook, Alan Cobham *English University Life in the Middle Ages*, London: Routledge, 1999, (36, 38, 177).

⁵See Sandover and Partridge, URNA 2,

http://www.mq.edu.au/lrc/altc/ug_research/database.php?stext=undergraduate+research+news+australia&search=1&styp=exact

⁶<http://issotl12.com/>

⁷Presentation to BPhil (Hons) Summer Residence, St Catherine's College, Feb 2012

ACUR 2013 and beyond

Angela Brew, Macquarie University

19th-20th September 2013 is the date that has been set for the next Australasian Conference on Undergraduate Research (ACUR2013).

A call for papers for this two day event to be held at Macquarie University will go out early next year.

During 2013 we will be working to make the conference sustainable on an on-going basis. It is anticipated that in future years it will be hosted at different universities and during 2013 we will be asking for expressions of interest to host ACUR 2014.

An International Steering Group is being set up to oversee the process. Academics and senior personnel interested in serving on the steering group are advised to contact us.

New additions to the web site

www.undergraduateresearchAustralia.com

On the website you will find:

◆ **The Proceedings of the First Australasian Conference of Undergraduate Research (ACUR2012)**

You can:

- browse the program for the day,
- hear the opening session (and see the slides) including the opening address by Professor Mick Healey
- hear the final session (and see the slides) including the concluding address by Professor Mike Neary, the prize-giving and the address by Macquarie University Vice-Chancellor, Professor Bruce Downton
- view all of the abstracts of the spoken presentations and posters
- see a list of sponsors
- see a list of people who reviewed the abstracts and papers
- see a list of the volunteers
- browse some photos taken during the day
- read the media release prepared following the conference
- read the article by Liam McCann published in Macquarie Grapeshot magazine.
- contribute to our Facebook and Twitter discussions

◆ **Presentations of the Showcase of Good Practice in Undergraduate Research and Inquiry**

Some new presentations on undergraduate research

Conference presentations

Brew, A. (2012). *Undergraduate research and change in higher education*. Keynote address at the Council on Undergraduate Research (CUR) Symposium. Hamilton, Ontario, Canada, 24th October.

Brew, A., Hajdarpasic, A., Jewell, E., & Popenici, S. (2012). *Working in Partnership with students; undergraduate research and the scholarship of academic practice*. Paper presented at the Conference of the International Society for the Scholarship of Teaching and Learning: Research on Teaching and Learning: Integrating Practices. Hamilton, Ontario, 22-27 October.

Brew, A. & Mantai, L. (2012). *Defining standards for research-based learning*. Paper presented at the ACSME: Australian Conference on Science and Mathematics Education Conference, The University of Sydney, 27th-28th September.

Popenici, S. (2012). *Reading walls on university corridors: a hermeneutic journey through transitional learning spaces in campus*. Panel Presentation at the Association for Qualitative Research International Conference Discourse, Power and Resistance "Down Under", Charles Darwin University, Darwin NT, August 2012.

Other presentations

Creating a Community of Undergraduate Research Scholars. Presentation presented by Aron Downie, for workshop for Innovation and Scholarship program participants, Macquarie University, 26 November 2012.

Undergraduates' awareness, experiences and perceptions of research. Presentation by Angela Brew, Ademir Hajdarpasic and Stefan Popenici at the Research on Teaching and Learning Seminar Series, Learning and Teaching Centre, Macquarie University. November 2012. (Prepared)

Learning experiences for transition to work. Workshop presented by A/Prof Leigh Wood and Angela Brew, Macquarie University Learning and Teaching Week, 19th September 2012.

Recent Publications

Brew, A. & Jewell, E. (2012). Enhancing quality learning through experiences of research-based learning: Implications for academic development. *International Journal for Academic Development*. 17 (1), 47-58.

Upcoming Events

CUR Dialogues 2013

February 21-23, 2013, Hamilton Crowne Plaza, Washington, DC
(http://www.cur.org/conferences_and_events/cur_dialogues/)

CUR Dialogues is designed to bring academics and administrators to Washington, D.C. to interact with federal agency program officers and other grant funders. Workshops and plenary sessions will:

- ◆ tell participants about grant opportunities in research and education, both new and ongoing;
- ◆ assist faculty learn how to find new funding opportunities;
- ◆ assist faculty develop grant proposal writing skills.

Participants will meet in small groups and talk with program officers and grants management officers -- NSF, NIH, NEH, NEA, HHMI, Dept. of Energy, Dept. of Ed. and more; take the opportunity to communicate directly with program officers and grants administrators concerning grant requirements and funders' priorities; and share ideas with colleagues. In addition, CUR Dialogues provides a setting for funders to learn of the interests, needs, and concerns of researchers and educators relative to funding opportunities. CUR Dialogues have spawned many ideas for grant programs, and has helped agencies to refine their program guidelines.

Who should attend: Academics at all career stages; undergraduate research directors; grants administrators; development officers. Early Registration Deadline = December 7, 2012. Final Registration Deadline = February 8, 2012. (adapted from website)

27th National Conference on Undergraduate Research (NCUR)

University of Wisconsin-La Crosse, 1725 State Street, La Crosse, Wisconsin USA, April 11-13, 2013
(http://www.cur.org/ncur_2013/)

The mission of the National Conference on Undergraduate Research (NCUR) is to promote undergraduate research scholarship and creative activity done in partnership with faculty or other mentors as a vital component of higher education.

The Conference Program will include student research and creative presentations in oral, poster/exhibit, and performance sessions scheduled throughout the UW-La Crosse campus; additional oral presentations by faculty in Faculty Administrator Network (FAN) sessions; graduate and Professional School Fair representing programs from across the United States; three plenary/keynote speakers; social events and excursions.

Attendance is anticipated to range from 3000 to 3500 individuals representing 35 to 45 states plus the District of Columbia, Puerto Rico, Canada, and likely other countries. Students represent nearly all academic disciplines with significant representation in Biology, Business (including Accounting, Economics, Finance, Management, and Marketing), Chemistry, Communication Studies, Computer Science, Engineering, Geography, Humanities (including History, Literature, and Visual and Performing Arts), Mathematics, Physics, Political Science, Psychology, Sociology...(extract from CUR website).



Upcoming events ... *continued*

British Conference of Undergraduate Research (BCUR)

Plymouth University, UK., 15th and 16th April 2013.

(<http://www.bcur.org/about-bcur/>)

This conference will bring together undergraduate students from across the UK (and beyond) to share their research through poster presentations, spoken papers, or through creative outputs such as exhibitions, performances and film. This is an opportunity to present dissertations, intern projects and any other original research which you have developed through the course of your studies. We welcome submissions from all disciplines.



All undergraduate students are welcome to submit abstracts. We also welcome participation from recently graduated students provided that your research was conducted when you were an undergraduate.

Abstracts should be 150-200 words long and should summarise your research project in a way that will be accessible to a broad audience. You should also include a list of 5-10 references to recent research in your field relevant to your project.

We are also calling for papers from academic staff or students concerning research or case studies about the introduction of undergraduate research into modules or courses. Collaborative staff student presentations are particularly welcome. You can submit an abstract using the online form. The deadline for submission of abstracts is 7th January 2013.

Australasian Conference of Undergraduate Research (ACUR)

Macquarie University, 19-20th September 2013

(http://www.mq.edu.au/ltc/altc/ug_research/) further information will be available next year on the Undergraduate Research in Australia website.

Following the success of the first Australasian Conference of undergraduate research a two day event will be held in 2013. A call for papers will go out early next year.



Contact us:

If you didn't receive this directly from us, it means that you are not on our email list. Please let us know if you would like to join our extended network of interested people. For further information, or to submit an item for inclusion in the next issue, contact:

Professor Angela Brew
2008 ALTC National Teaching Fellow
Email: angela.brew@mq.edu.au

Lilia Mantai
Email: lilia.mantai@mq.edu.au
Learning and Teaching Centre (Building W6B Room 239) Macquarie University, NSW 2109, Australia