

WISENet

Women in Science Enquiry Network



Banksia integrifolia

In Full Bloom

WISENET Journal
Volume 79
November 2008

WISENET / Sydney Link Group

WOMEN IN SCIENCE ENQUIRY NETWORK

Objectives

- (a) To build a supportive and active network of people interested in the objectives of WISENET and to liaise with other interested groups;
- (b) To increase women's participation at all levels in the sciences where they are now underrepresented;
- (c) To provide comment and to examine the education, training and employment structures which currently restrict women's opportunities in the sciences;
- (d) To gather and disseminate data on women in science – the sciences here including the physical, social and life sciences, mathematics, computing, medicine, engineering and associated technologies;
- (e) To explore linkages between the different disciplines and promote communication between scientists and the community on science related social and environmental issues;
- (f) To promote research and technologies for the benefit of communities;
- (g) To explore programs for change in the sciences and support more democratic and participatory systems as an alternative to the traditional models;
- (h) To support appropriate action to achieve these objectives.

Women in Science Enquiry Network (WISENET) Inc was established to increase women's participation in the sciences and to link people in different branches of science and those who are working towards a more participatory and socially useful science.

WISENET was formed through the establishment of a series of link groups throughout Australia. State and regional groups act autonomously, focusing activities primarily at a local level, but also inclusively with other groups for more general or national issues.

WISENET is open to women and men who are involved or interested in the sciences and who are interested in working for change in line with the objectives. New members are welcome. If you would like to join, please visit <http://www.wisenet-australia.org> to download an application form.



c/- Convention Associates, 8 Ewart St, MALVERN VIC 3144

WISENET'S Web Site: <http://www.wisenet-australia.org>

Editorial

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Editing a second WISENet journal has been a sobering reminder of how busy we all are. The growing creep between work and outside interests means that we all have less and less time for “extra” projects, even though these are usually more enjoyable than our growing lists of core work activities. As a consequence, I am profoundly grateful to our many contributors for the time that they have so generously dedicated to this journal.

The title of this issue, “In Full Bloom”, follows on from our previous issue “Seeds of Change”. Both were inspired by beautiful images of Australian wildflowers provided by WISENet members, and on this occasion by Deidre Tronson. “Seeds of Change” highlighted the gaps in opportunities that can still be identified for women in science, whereas “In Full Bloom” takes a more optimistic view. After all, the last year has seen quite dramatic changes in the representation of Australian women in the highest levels of political and scientific office. Suddenly, we have women in the positions of Governor-General, Deputy Prime Minister, Head of CSIRO, and Chief Scientist, whereas only 12 months ago, this would have been unimaginable. Hopefully this is the beginning of a sea change in opportunities for Australian women, and this issue celebrates this possibility, by focussing upon the activities of different gender equity projects across Sydney.

I would like to thank Deidre Tronson, Shau-Chen Fang, Amelia Martyn and Gabi O'Sullivan for their dedicated editorial work, Sue Henderson for her lay-out work, and Kath Lamoureux for ideas and support. Deidre Tronson also sourced articles behind the scenes, and contributed the journal title and images. I also really appreciated Shau-Chen hosting a journal planning meeting in her home earlier this year.

Wishing all readers a safe and happy holiday season, and good health and success in 2009.

*Jennifer Byrne
Sydney
November 2008*

The Women ♀ Work Research Group



The University of Sydney

Marion Baird & Alison Page

Whether about maternity leave, part-time work, fertility rates, the glass ceiling or pay and superannuation gaps, debates about women’s multiple roles in paid and unpaid work are never far from the public eye. This is because one of the most significant economic and social changes to affect business and family life in the past twenty years has been the rising participation rates of women in the paid workforce. This shift affects all aspects of work, family and community life and requires policy responses and innovations in a range of public and private contexts. Quality, targeted research that provides insights and solutions to the tensions and problems is also needed; and that is one of the objectives of the Women ♀ Work Research Group (W♀WRG).

In this article we provide an overview of the Women ♀ Work Research Group (W♀WRG) and the special colloquium it held in March 2008 to mark the 100th anniversary of International Women’s Day (IWD). We also present the results of an informal survey on women’s vision for the future conducted at the colloquium.

What is the Women ♀ Work Research Group?

Ongoing concern and unresolved policy questions about women and work has highlighted the need for quality research in Australia and the Asia Pacific region. In recognition of this, the W♀WRG was established in 2006 by Marian Baird with colleagues in the Faculty of Economics and Business and across the University. Today, the group has 13 direct members (male and female) and a coordinator/research assistant, Alison Page.

The W♀WRG is a cross-disciplinary research group providing a scholarly environment for the examination of all aspects of women, work, family and com-

munity. It provides the first Sydney hub for the development and expansion of local knowledge and research expertise about women and work in Australia and the Asia Pacific region.

Over the past two years, the W♀WRG has also established external links with many colleagues in the private and public sectors and in unions and not-for-profit organisations. To date, it has hosted numerous seminars and workshops with local and visiting international academics; written briefing papers for policies in areas such as maternity leave, sex discrimination and mature aged workers and is developing a set of research agendas.

International Women’s Day Special Colloquium of the W♀WRG

A key aim of the W♀WRG is to conduct forums that link practitioners, policy makers and researchers and a key highlight this year was the special colloquium to mark the 100th anniversary of International Women’s Day.

The theme of the day was ‘Women’s Business – Current issues and future agendas’. Some of the latest research was presented and there were debates, interactions with policy makers and participant projections of the future for women, work and life in Australia.

The Honourable Tanya Plibersek MP Federal Minister for the Office of Status of Women opened the colloquium and the Honourable Verity Firth MP Minister for Women, NSW delivered the closing address.

Ms Anna McPhee, Director of the Equal Opportunity for Women in the Workplace Agency presented recent findings on gender income distribution of top earners in ASX 200 companies.

Academics from various universities presented their latest research on a range of other topics including:

- Women's current status in the Australian labour market.
- Gender pay equity reform.
- The status of paid maternity leave in Australia.
- Women union leaders and the history of women in Australian unions.
- Institutions promoting equality for Australian working women.
- Gendered ageism in the Australian labour market and in consumer markets for products designed to arrest the ageing process.
- Lessons from overseas for Australia's welfare to work programs.

Full papers from the day will be published in a special issue of the *Australian Bulletin of Labour* and the presentations can be viewed at the W♀WRG website.

Survey Results — a vision for Australian Women

There were over 70 attendees at the IWD colloquium with representatives from government, NGOs, unions, business and academia. During the day, attendees were invited to complete a short questionnaire on their vision for Australian women. Responses were sought to the following particular questions:

1. What would you like to see happen for women in the next 1 to 5 years?

2. What do you think we should do to make these changes happen?

Whilst the sample size may render the responses statistically ungeneralisable, W♀WRG believes the responses represent an interesting cross-section of the opinions of some of its most valued collaborators and intends to draw on them in setting its future work plans.

The most significant policy issues for the next 5 years were seen to be:

- the introduction of mandatory paid maternity leave (40% of attendees noted this issue in their response to question 1);

- the resolution of pay equity problems (30% of attendees noted this issue in their response to question 1);

Other identified needs included:

- legal recognition of same sex relationships;
- access to quality affordable childcare;
- increased female leadership in all levels of government, business and unions;
- better recognition and valuing of unpaid care work;
- facilitation of means for both men and women to combine quality work and care responsibilities;
- policies to encourage older women to remain in the workforce;
- legislative changes which would ensure that 'casual' workers who effectively work on a permanent part-time basis are recognised as permanent part-time workers;
- the reintroduction of funding for a peak body for women;
- the reintroduction of campaigns against domestic violence.

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W♀WRG International Women's Day Special Colloquium
Guests, from left to right: Professor Gabrielle Meagher (W♀WRG, University of Sydney), The Honourable Verity Firth MP, NSW Minister for Women and Meg Smith (University of Western Sydney).



W♀WRG International Women's Day Special Colloquium

Guests, from left to right: Susan McGrath-Champ (W♀WRG, University of Sydney), Kerrie Bigsworth (NSW Government) and Leanne Catcher (W♀WRG, University of Sydney.)

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In terms of implementing these changes, respondents called for:

- further and better integration of economic analysis with social policy analysis;
- greater collaboration between researchers in areas of women's policy and the community sector;
- the reintroduction of a feminist framework at all levels of education;
- continued lobbying on behalf of women of all backgrounds, educational levels and employment sectors;
- affirmative action in terms of female representation in senior and/or high profile positions in all sectors;
- more post-graduate scholarships for women;
- examination of job design at the organizational level to enable greater flexibility to achieve a better work/life balance. This would require a move away from current assumptions of full-time work towards a focus on the functions of each role.

For more information about the work of the W♀WRG go to <http://wwrg.econ.usyd.edu.au/events.html> where you will find member profiles, publications, events, papers, presentations and reports.

Clearly there is still much to be done across all areas of research, policy and implementation and the W♀WRG will continue to engage with academics, practitioners and policy makers in order to improve women's working lives. ❖

Contact Details

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BEd (Hons) PhD

Marian Baird is the Convenor of the Women ♀ Work Research Group and has many years experience researching and writing about women and work, industrial relations and human resource management. Marian is Associate Professor, Work and Organisational Studies in the Faculty of Economics and Business and is a lead researcher on the Parental Leave in Australia Study. She holds a number of other research grants investigating work and family and has worked closely with business, unions and policy makers on matters relating to family-friendly policy and practice.

Alison Page

BComm LLB (Hons), MIR & HRM

Alison Page is the Women ♀ Work Research Group coordinator, Faculty of Economics and Business, University of Sydney. Alison has 10 years' experience as a corporate lawyer in private and in-house practice in both commercial litigation and transactional areas. Alison has worked on a number of research projects in the Discipline of Work and Organisational Studies, Faculty of Economics and Business over the past few years, including the Parental Leave in Australia Study and projects for the New South Wales government on paid parental leave, sex discrimination and mature age workers elder care responsibilities.

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The Women's Employment Strategy (WES) within the Faculty of Science at UNSW

Lisa O'Dwyer

Lisa O'Dwyer is the Co-Manager of Workplace Diversity at the University of New South Wales within the Human Resources Department, a role she job shares with Jennifer McLoughlin. Lisa has held various positions within the Human Resources Department since commencing in 1993 and graduated from UNSW with a Bachelor of Arts in 1990. Lisa is the Presiding Member of the Board of Management of Tigger's Place Childcare Centre, UNSW.

The aim of the *UNSW Women's Employment Strategy 2008–2010 (WES)*¹ is to address the under-representation of women in senior academic and management positions at UNSW.

The University is committed to regarding equal opportunity as a basic human right, but the harsh reality is that there are not as many women as men represented in sections of the workplace within the University. This is a particular concern within the science and technology sector. Because of predicted skills shortages in these areas², a strong business case can be presented to implement processes to improve the representation of women, particularly in more senior positions where the gender imbalance is perceived to be greatest.

At UNSW, the WES aims to facilitate a greater retention of women by involving more staff members in the consideration of the issues and the formulation of strategies to optimise their involvement in both employment and corporate affairs within UNSW. Each faculty and/or division is responsible for creating its own plan to achieve the aims of the WES, and each is expected to devise its own targets and evaluate the concomitant achievements and progress towards these targets. The outcomes will be monitored through reports that will be submitted to the Manager of the Workplace Diversity and Gender Equity Strategy Committee (GESC).

In order to provide a common structure for planning and reporting procedures, the University has subscribed to the *Chief Executive Women's CEO Kit for Attracting and Retaining Female Talent (CEO Kit)*³ which

provides a primary tool for an analytical and fact-based approach that aims to uncover barriers impeding the advancement of women in the institution, and also makes factors such as organisational culture measurable and manageable. The Human Resources Department is facilitating meetings to kick-start the planning process within the faculties and divisions, and is considering each Dean and Divisional head as a "CEO" for the purposes of using this kit and implementing its implied strategies, which are centred around five basic questions:

1. Is identifying and promoting female talent a top priority for our CEO, leadership and board?
2. Are we appointing our fair share of female talent?
3. Is organisational culture driving our female talent out?
4. Does our pay distribution by gender tell a story?
5. Are we managing our female talent for leadership roles?

Within the Faculty of Science, the intention is to apply the aims and objectives of the WES by encouraging staff members themselves to formulate a plan of action in a series of planning meetings. Although all existing centrally formulated policies and programs will continue, as they are considered effective and valuable, the WES aims to move away from the centralised one-solution-fits-all approach and seeks to involve more people in finding ways to improve the representation of women. The Faculty of Science has some particular issues that may not apply to other faculties and divisions, so this is an opportunity to use the CEO Kit to examine data in a systematic way.

Initial examination has shown that the representation of women in the professional and technical staff within the faculties is largely adequate, so it has been decided to try to minimise the complexity in the initial stages by focussing the initial set of planning meetings on academic staff and their issues. The long-term view is to extend

References

1. UNSW (2008) found at: http://www.hr.unsw.edu.au/services/equity/pdStrat_women_employ08_10.pdf [accessed 22/10/08]
2. For example, see discussion within the Minutes of the AGM, WISENet Journal 78, Aug 2008, p 23.
3. Website of Chief Executive Women Inc, (2008) found at: <http://www.cew.org.au/index.cfm?apg=kit> [accessed 22/10/08]

the process to include an examination of the professional and technical staff data in subsequent years.

With the support and advice of the Faculty of Science Dean's Gender Equity Advisory Committee, it has been seen as important that the initial Faculty Implementation Committee be a model for future action. Its members have therefore been carefully selected to be representative of academic, professional and technical staff from culturally diverse backgrounds, and of both genders. Its first planning meeting to be led by the Dean, Professor Mike Archer, will occur in November.

It is also to be noted that, as expressed in the Women's Employment Strategy (p.4),

the overall strategies within the University are not confined to improving the representation of women only, but are being implemented alongside other policies aimed at ensuring that all students and staff, from whatever cultural or ethnic background, are encouraged to achieve their full potential; to the ultimate benefit of themselves, the University and the development of a 'clever country'.

In the future, we at UNSW look forward to reporting on the positive ways in which this analytical approach can identify problems that have so far hindered female participation at senior levels within the University, and, more importantly, discussing (perhaps in future editions of this Journal) successful strategies that the University may implement to redress this imbalance. ❖

Seeds Take a Journey to the Heavens

Amelia
Martyn

Seed
Research
Officer

Mount
Annan
Botanic
Garden

Amelia Martyn is a seed research officer at Mount Annan Botanic Garden, where she has spent the last four years investigating seed germination, dormancy and longevity. She spends three days a week marvelling at the intricacies of native seeds and coaxing them to grow and the rest of the week at ground level acting as a climbing frame for her adventurous daughter.

Seeds from the NSW Seedbank are due to return to earth this month after a six-month stint aboard the International Space Station. The seeds of golden wattle (*Acacia pycnantha*), flannel flower

(*Actinotus helianthi*), Wollemi pine (*Wollemia nobilis*) and waratah (*Telopea speciosissima*) trav-

elled with NASA astronaut Dr Gregory Chamitoff.

The unique opportunity to send seeds into space came about through the

friendship between the astronaut and Botanic Gardens Trust scientist

Dr Penny Farrant. They decided to send native seeds to promote the role of seed-banking as an important conservation strategy and highlight the importance of protecting our unique Australian species.

Australian seeds are among the hardiest seeds on earth so our hypotheses are that the viabilities of seeds stored at ambient temperature conditions on the International Space Station and on earth are comparable, and that the trip will not adversely affect the viability of the representative Australian seeds in the test. An identical package of seeds remained earthbound at the Mount Annan Botanic Gardens to provide a control for comparing germination when the seeds return from space.

The conditions known to affect seed viability are moisture and temperature, so the NSW Seedbank dries seed to a low moisture content (5-7%) in a humidity-controlled drying room and stores seed packages at -18°C to maintain viability for tens or even hundreds of years. Seeds of different species held in these conditions have different life spans, depending on their biochemistry and their initial viability. Scientists at Mount Annan are currently conducting experiments to compare the longevity of different species, in partnership with the Millennium Seed Bank in the UK and Australian Seed Conservation and Research (AuSCaR) partners. ❖



The 'control' seed packet that stayed at Mount Annan Botanic Gardens

Image courtesy of Botanic Gardens Trust

Exploring the Medical Humanities

Claire
Hooker
Coordinator,
Medical
Humanities
Centre for
Values, Ethics
and Law in
Medicine
University of
Sydney

Claire Hooker is the coordinator of the medical humanities program at the University of Sydney. She studied at the University of Sydney, where she researched Australian women scientists for her PhD, but since then has become more and more interested in various aspects of public health - especially how people think about and respond to health risks. Her current project is about how lay people conceptualise cancer risk (and the answers turn out to be pretty fascinating!)

Sometimes it can be hard to see the human in the scientist. The dominant image we have of scientists is the proverbial white coat – and it, in turn, is a symbol for one of the ideals that guides science, which is that knowledge is objective. Scientific knowledge is powerful precisely because it makes the best attempt we humans have yet come up with for being objective – in other words, not having one’s race or creed or sex or personal feelings or early childhood experience or cultural values influence the nature of knowledge.

And yet scientists are very much human beings – in fact, often their human characteristics seem slightly exaggerated and more obvious, perhaps even extreme. Scientists are often very funny people, even if their jokes are a bit nerdy and rely on specialist knowledge. (I like this one: ‘what are you if you are not part of the solution? - A precipitate!’) They are obsessive and ego-centric. In my experience, they often retain something of that incandescent passion of childhood, where things are breathtakingly beautiful or mind-meltingly exciting. As I kept hearing time and again when researching the history of women scientists in Australia, they don’t suffer fools gladly.

It seems appropriate to me to stop and think about the human-ness of scientists from time to time. Certainly scholars in what is known variously as ‘science and technology studies (STS)’ or ‘history and philosophy of science (HPS)’ ever since Thomas Kuhn have expended considerable effort and paper in debating how the

social aspects of science – its hierarchies, its rituals, rules and practices, its organisation, its cultural imaginations – have influenced the development of scientific ideas. But for me this doesn’t ever really explore the more intangible, personal human aspects of what being a scientist is all about – how creativity occurs, what patience in following a hypothesis really feels like, what the long hours of rhythmic laborious tasks opens up in the reflective head. It was these fleeting experiences that I was most drawn to when I was researching women scientists.

Because of my research, I had the great privilege of talking to many women scientists (and their male colleagues) and reading the letters and papers and notes and comments of a great deal more. The questions I kept wanting to ask were not ‘which was this person’s most important discovery’ or ‘how upset were you about not getting equal pay’, but instead something like ‘what was it about those nematodes that was so interesting to you - that kept you wading through mud hour after hour in search of fish that might be a host?’ Or, ‘did you have your good ideas in conversations with people or by yourself at home or where?’ Or, ‘what is it about that formula that feels ‘elegant’ to you?’ Or, ‘how did you feel when you found that fossil bed above the Old Ordovician layers outside Yass?’ (Although, I think I had pretty good idea about the answer to that one!) Capturing these little, human moments really seemed as compelling and important as listing what these women had published, or the positions they’d held.

One of the great pleasures of this sort of history is in having the time to just be a witness – to pause long enough to really appreciate these unique individual lives, to witness, to celebrate or commiserate. Australia has produced numerous terrific scientists of both sexes, and when you get to know the details of their work, you realise just what extraordinary people so many of them were. But this history was

not just indulgent since paying attention to the person in the scientist is rather unavoidable if you are going to write about women. Historically, it has been easy to pretend that men's lives were only what their public selves revealed. Many biographies of (male) scientists discuss their personal lives only as a sort of addendum to the 'real' story, with very little detail. Women scientists in contrast cannot exist wholly in the professional domain given that some had family and personal commitments that placed limits on their professional work, and others found their careers not progressing along quite the expected path. Despite the assurance of their male colleagues that it was their work, not their sex, that mattered, they found their time taken up in countless little departmental 'housekeeping' tasks.

Now that my book on women scientists – a group of people, by the way, who very rarely felt they encountered discrimination, even if as a group their experiences were constrained by their sex – is done and out, I've been turning my attention more and more to health and medicine. And yet the themes and thoughts from the experience of these women scientists have stayed with me. I am now in a new job where, to my satisfaction, these themes can become front and centre concerns, not unscholarly sidelines of interest. I am now coordinating the graduate program in Medical Humanities at the University of Sydney, where exploring human-ness is what it is all about.

Medical Humanities is a fast growing area internationally. It emerged from medical schools concerned about ensuring that their graduates are as well prepared to professionally manage the human qualities of their patients in a compassionate, empathetic and morally appropriate way, as they are to do a brilliant job technically. Medical Humanities also saw its rise from the growing numbers of physicians who double as writers, musicians, or film makers, not to mention the scholars in history, philosophy, sociology, anthropology, literature and fine arts who have turned their attention to matters medical. In North America and in a few places in the UK, there are increasing numbers of medical humanities programs, for the most part within medical education programs. In Australia, the medical humanities program at the University of Sydney is unique. Because it began in the Faculty of Arts, the program exists outside the graduate medical program, though it provides classes and resources to medical educators. (Of course, all Australian medical schools teach communication and professional physician behavior. While some have incorporated a few classes on medical history or literature, there is no formal program anywhere other than at the University of Sydney.)

The medical humanities program offers postgraduate degrees to students from all backgrounds, though the majority of students are mid- or late-career health profes-

sionals. Students take a core unit of study, 'Key Concepts in Medical Humanities', and can then choose from electives both within medical humanities (eg, medicine and war, medicine and music, medicine and museums, dignity), and across the university, depending on their particular interests. Students love both the program and the opportunity to just go and explore. Classes are very lively, with students typically giving 110% and bringing extra material for their classmates. The most common complaint with the course is that it has to end!

For me, medical humanities is an exciting area because it allows me, often through my students, to explore a huge range of human experience. My students have brought me with them in subjects as disparate as the shamanistic origins of traditional Chinese medicine, the ways in which narrative competence (e.g. listening to and telling stories) can improve clinical practice, how carers feel about art on hospital walls, how it is to experience synaesthesia, under what conditions have the notion of clinical trials developed historically. I am lucky enough to admire the increasing volume of fiction, poetry, music and painting that so many highly talented physicians and nurses produce. It's a good time to be doing this, because medical humanities is increasingly attracting support and interest from funding bodies. A generous donation through the Harold and Gwynneth Harris Fund (which honors the parents of the physician Dr Rhonda Soricelli, who worked hard to allow her to go to medical school – a theme with which many women scientists of an older generation would identify) has led us to plan an annual Medical Humanities Fellowship. This fellowship gives a health worker the chance to take three or four weeks out of the punishing schedules and pressures of clinical life to conduct their own project in the creative or scholarly arts.

As I write this, it strikes me that there ought to be a 'scientific humanities' programme, in addition to medical humanities, or at least that my program ought to serve the needs of scientists as well. Even if scientists do not work with patients, they still bear the responsibility of considering the social implications of their research (on nuclear physics or recombinant DNA as two examples). In addition, scientists, like doctors, are often immensely talented people who have 'second lives' as artists or historians, and like doctors, are either passionately committed to social service (to peace movements, for example), or appreciate having the time to consider the social aspects of their profession. The pleasures and depth of medical humanities may mean as much to men and women scientists alike.

(And then we have only to open the sciences to professionals in the arts, a much more demanding though equally satisfying task!) ❖

Gender Equity at the University of Western Sydney

These articles were prepared by the University of Western Sydney Media Unit.

Many organisations have policies beyond those required by law to ensure women receive a fair go in the workplace. The tertiary education sector in particular regularly outperforms other industries on many key social performance indicators.

But how can you tell if the systems in place at organisations really are working and helping women achieve their goals?

By talking to the women who work there.

Three women, at various stages of their careers, working in the University of Western Sydney's College of Health and Science have spoken about their life experiences.

UWS stands apart from many of its peers because it really has become an employer of choice for women.

The organisation is filled with women at all levels – almost 60 per cent of staff are female – but it also has women in key positions including the Vice Chancellor, a Deputy Vice Chancellor, a Pro Vice Chancellor, the Chief Operating Officer, two Executive Deans and Heads of School.

For those at the beginning of their careers, all 15 of the Indigenous Trainees employed by UWS are women. They will gain valuable work experience and training to improve their future employment prospects.

UWS has positive policies for women which match or better those on offer at other universities in Australia – flexible work arrangements, on campus childcare, 26 weeks paid maternity/return to work leave, six days paid personal leave in addition to the usual sick leave provisions and actively enforced anti-bullying and harassment policies.

UWS also supports women beyond the campus fence

through the annual “Women of the West Award” which recognises the outstanding contributions women make to the community of Greater Western Sydney.

The University has won a Federal Government Employer of Choice for Women award every year since the program began.

UWS is definitely not a boys club nor indeed is it a women's club. An inclusive tone is set from the top.

Executive Dean of the College of Health



...talking to women who work there

and Science, Professor Beryl Hesketh believes recognising each staff member as a unique individual is the key to the University's appeal to women.

“There is no typical female UWS staff member. We have a very diverse workplace with people at different stages of their careers and pursuing different goals,” said Professor Hesketh.

“UWS doesn't just encourage tolerance, it actively embraces diversity.”

However, merit and performance are still paramount.

“I believe appointing women - and men - based on skill and ability is essential to creating a workplace filled with role models who inspire everyone to excel,” she said.

“We must all aspire to help create a workplace where women can fulfil their ambitions free of discrimination and hindrance.”

“Given everyday I meet amazing women conducting world-class research and at the top of the teaching profession at UWS, I know we're well on the path to reaching this goal,” said Professor Hesketh. ❖

Professor Beryl Hesketh, Executive Dean of the College of Health and Science, UWS. (Image courtesy of Sally Tsoutas)



Associate Professor Shelley Burgin

Associate Dean (Research), College of Health and Science, University of Western Sydney

Shelley Burgin was a mature aged student when she first enrolled in an undergraduate Environmental Science degree at Griffith University. It was the 70's and Shelley was a passionate environmentalist, wife and mother who never dreamed of a career in academia.

"In those days, I was one of the era of women who were expected to stay home. My family shared the perception that I was studying to fill-in my spare time. My interest in the environment and conservation was considered a hobby rather than a career opportunity," she said.

As you fast-forward through time, Shelley's career has many high points. As the ever-dutiful wife, she followed her husband's career to Papua New Guinea where she undertook a Masters in Biology as part of the IUCN's project to support crocodile farming in the country. Returning to Australia, Shelley completed a PhD in evolutionary genetics at Macquarie University while working as an academic, and at the conclusion of the PhD she was hired as the first female lecturer in Science at the newly created University of Western Sydney on the Hawkesbury Campus.

Situated in Richmond in the Hawkesbury River Valley north-west of Sydney, the UWS Hawkesbury Campus is in the unique position of being an agricultural region dually surrounded by highly

urbanised areas and the World Heritage Blue Mountains National Park. Still an environmentalist at heart, being based in the Hawkesbury region offered quite a diversity of wildlife and ecosystems and, as a new institution, UWS offered many, varied opportunities.

"There is always a push for scientists to have specific specialisations. However, throughout my career I have been fortunate to spread my wings in many areas and have achieved expertise in many areas including biodiversity, conservation ecology, ecosystems management, herpetology and total catchment management," she said.

At present Associate Professor Burgin is Associate Dean (Research) of the University's College of Health and Science and Provost of the Hawkesbury Campus. As Associate Dean (Research), Shelley oversees all of the University's science and engineering related research and as Provost she is considered to be the public face of the Hawkesbury Campus.

"Throughout my career, particularly in the area of Herpetology which has always been male-dominated, I have witnessed first-hand the changes in perception toward female scientists," said Shelley.

"Now, I am fortunate to be working in an institution that prides itself on equality and offers many opportunities to women to work at a senior executive level." ❖

Dr Hilary Bambrick

Senior lecturer in Population Health, School of Medicine, University of Western Sydney

Dr Hilary Bambrick certainly has her work cut out for her at the University of Western Sydney. As Senior Lecturer in Population Health at the University's recently established School of Medicine, Hilary's role involves the development of a brand new curriculum for the first cohorts of UWS medical students and the establishment of a community placement program that will allow students to get practical training.

When she's not guiding and mentoring western Sydney's next generation of doctors, Hilary takes a leading role in several UWS research projects that are sure to have an important impact on Australian health policies.

One such research project is investigating community attitudes to remunerated blood and organ donations. She is also involved in projects that assess the health impacts of climate change and the social



Dr Hilary Bambrick, Senior Lecturer in Population Health, School of Medicine, UWS. (Image courtesy of Sally Tsontas)

and environmental factors that facilitate healthy ageing.

In speaking to Hilary Bambrick, one is instantly convinced of her passion for her craft – but she wasn't always so sure.

As a young, wide-eyed student of Australian National University, Hilary Bambrick tried her hand at a few courses and was struggling to find her perfect fit. She dabbled in psychology

and political science, but it wasn't until a friend suggested anthropology that Hilary became truly inspired.

Hilary spent 13 years at ANU, beginning with a combined Arts/Science degree, studying biological anthropology as an Honours student; completing a PhD research project on Indigenous diabetes; working for a year in a rural Indigenous community; and then securing a Post Doctoral Fellowship at the National Centre for Epidemiology and Population Health (NCEPH).

Finally, in 2007, Hilary made her debut at UWS.

“The new School of Medicine at UWS is such a vibrant and exciting place to work. Although it is hard work, it is so rewarding to see the School develop and grow, and to be a part of something that is sure to be instrumental in the future health of the region,” she said.

“It wasn't until I accepted my position at UWS that I realised the female figurehead of the organisation is Professor Janice Reid – someone who I have looked up to admired throughout my career for her work in the area of Indigenous health.

“I have never felt that being a woman has hindered my career in any way. This is most likely due to the fact that I have always worked within Universities – which are generally very supportive of women and offer great opportunities and flexibility.

“I am very privileged to be working at UWS and would strongly encourage any woman to turn their love of science into an academic career.” ❖

Profile

Associate Professor Janice Aldrich-Wright
School of Biomedical and Health Sciences, University of Western Sydney

Very few could claim they endeavour to design life-saving cancer drugs for a living, but Associate Professor Janice Aldrich-Wright at the UWS School of Biomedical and Health Sciences can.

Janice has quite an impressive list of achievements that span her twenty-year career at UWS. She attributes her success in her chosen profession to the many strong, talented women that have gone before her and helped pave her way to success.

Originally starting out teaching undergraduate chemistry at the former Nepean College of Advanced Education, now known as the UWS Penrith campus, before moving to the UWS Campbelltown campus, Janice went on to complete a PhD while teaching. She did this while also juggling the responsibilities of two children both under the age of five.

Her hard work and effort paid off when she received the 1993 Cornforth Medal

Presented by the Royal Australian Chemical Institute (RACI) for the Best Australian PhD Thesis in Chemistry, for her PhD thesis entitled ‘Processes in Some Metal Chelate Systems of Biological Interest’.

According to Janice, the great thing about UWS is the high number of talented women sprinkled throughout all the areas of research.

“There are a great number of female colleagues and successful women at the university that I look upon as role models and aspire to be like,” said Janice.

“In the last ten years, women have become more senior in the field of science and I am glad to be part of a university that encourages equality in every aspect of learning and teaching.” ❖

The Balancing Act

Pearls of wisdom from busy women

Amelia
Martyn

Seed
Research
Officer,
Mount
Annan
Botanic
Garden

Having recently returned to work part-time and with a young baby, I've been very keen to see how other people balance work and family life. So I've compiled a list of suggestions from various sources, but mainly from our wonderful WISENet email discussion group. Some of the suggestions will seem obvious but after a hectic day or week even these are sometimes difficult to remember. Pick and choose the ones that might suit you.

Hopefully this is a helpful resource – I've already pulled out the discussion group responses several times to keep me optimistic and motivated at work after a sleepless night!

In general

- Don't try to do everything and don't worry about balance – learn to live with some imbalance! There will be different priorities at different times. Priorities will shift depending on the time. Magazine editor Jackie Frank is often asked: "How do you do it all?" with the reply "I don't". Or just smile serenely!
- Find a way to deal with the guilt of dividing your time between home and work. Be focused on where you are.
- Learn to love or at least tolerate chaos.
- Plan out the week with your partner, carers or other support people.
- Get support from family and friends as well as professional support services such as child and maternal health clinics, Tresillian and Karitane phone lines, parenting websites such as <http://raisingchildren.net.au> and the Australian Breastfeeding Association (ABA) if you are juggling breastfeeding and work. (ABA has an online forum if you can't get to meetings – see <http://www.breastfeeding.asn.au/>)

- Use a cordless phone with a hands-free headset to catch up with family, friends, students while doing other activities, or write up notes of teleconferences in real-time.

At work

- Find a work schedule that works for you and your family, making the most of the flexibility that work in science can offer.
- Be organised to make the most of each work day.
- Try to attract diligent students or fund postdocs or research assistants who can keep experimental work running under your guidance. Hire people with as much skill as possible with emphasis on being able to work independently when you're not there.
- Only take on extra roles at work that will give maximum brownie points without sapping too much time and energy. If you can't take on a new challenge now, ask to be offered the opportunity again at a future time
- Try to remember what you like about work (intellectual challenge, order, talking to other adults, pay!) and enjoy the time there.

With the kids

- Prioritise time with kids and do something you both enjoy. Schedule a 'no housework' day to do fun things or go out to avoid the mess at home!
- Share days off to care for sick kids – read or catch up on emails at home if possible and avoid planning big meetings/deadlines etc in mid-winter when illness is more likely.
- Have a list of things to prepare for daycare or school and get the family to do as much as possible the night before.

Enjoying yourself

- Make sure you take time out for yourself regularly to recharge the batteries.
- Invest time in friendships even (especially!) when exhausted. Several people mentioned mothers groups for the early days and friendships with other working mums as very important. You might also be able to take turns looking after the kids for each other too, to get to work functions or take some time out.
- Look after yourself with exercise and good food.
- Ignore negative people and don't worry too much about pleasing everyone.
- Be kind to yourself.

Keeping the home fires burning

- Don't forget you are in a partnership! Share the pick-up and drop-off routine, meal planning, household bills, planning of weekend activities etc.



*The photo of Sophie and Amelia is from their first picnic at Royal National Park.
Image courtesy of B Yenson*

- Work out what's important to you and organise to avoid the situations that annoy you most.
- Organise a back-up plan with a neighbour, friend or relative, because traffic jams happen even when childcare closes at 6pm.
- Get some help with the 'witching hour' especially when the kids are little, so one person can help bath the kids while the other cooks dinner.
- Hire professional help – e.g. a cleaner (mentioned many times!), someone to mow the lawns or do the ironing.
- Cook dinners on the weekend and stock up the freezer – then add rice/pasta/couscous/vegetables on a weeknight. Or, have ready-made meals from the supermarket or deli with extra salad or toasted sandwiches or soup.
- Get fruit and vegetables or other grocery items home delivered.
- Gratefully accept all offers to cook meals, hang out the washing etc.

And the most important sentiment, expressed by many of the WISENet discussion group: Remember that while they may seem tough at times, these are golden days! ❖

Thanks to Cathy Offord, Siew Yeen Chai, Julie Crowley, Jan Thomas, Tripty Hirani, Christine Wells, Rebecca S Mason, Deidre Tronson, Diane Webster and Julie Christie for their input.

Olivia Mirza

PhD Candidate, School of Engineering

This article was prepared by UniLife

and

The University of Western Sydney Media Unit.

UWS School of Engineering PhD candidate, Olivia Mirza, hopes her research will contribute valuable new information about steel fibre reinforcing and encourage structural engineers to use the technology.

Olivia's PhD project called "Behaviour and Design Stud Shear Connectors in Composite Steel and Concrete Beams" is researching a new technique for reinforcing concrete and steel structures that could dramatically reduce construction costs.

The construction industry in parts of Europe and Japan is already using steel fibres to replace or supplement reinforcing bars or mesh used to prevent cracking in concrete.

Fibre about 60mm long and 0.75mm in diameter are mixed into wet concrete. They are made from hard drawn steel wire to ensure high tensile strength. The hook-ended fibres provide a means of anchorage when concrete is exposed to tensile force.

Olivia said their use reduces steel costs by as much as half.

Her work aims to determine the best combination for maximum strength and compression of concrete.

"My work has already proved that steel fibres can improve the stiffness and ductility of concrete and enhance its resistance to cracking," Olivia said.

"I've also discovered that steel fibre reinforcement has an optimum value – adding too much will make concrete more brittle rather than strengthening it."

The project is part of an Australian Research Council linkage grant with Bluescope Lysaght and UWS.

Olivia is being supervised by Professor Brian Uy, Head of the School of Engineering. Bluescope Lysaght contributed \$100,000 and determined the area of study.



steel costs
reduced by as
much as half

Olivia came to Australia from Malaysia with a scholarship to study engineering at the University of NSW. After graduating, she worked for five years as a structural engineer and mediate engineer.

She says she accepted an offer to do a PhD at UWS because it offered research facilities superior to other Australian universities and gave her the opportunity to work with Professor Uy, one of the best-known researchers in the world in composite steel and concrete structures.

"It is a great opportunity to add something new and practical to the construction industry," she said.

Olivia said taking on a PhD is a big challenge. "You have to be mentally strong and well organised and it's important to have some idea of where you see yourself in terms of career development.

"My initial passion was designing buildings. When I was working, I would feel great satisfaction every time I completed a project.

"By doing a PhD, I have created another opportunity for myself, that is to become an academic. Also, the analysis skills I'm learning in my PhD will allow me to become an analyst engineer instead of just a design engineer." ❖

Olivia Mirza, PhD Candidate, School of Engineering (image courtesy of Sally Tsoutas).



The University of Sydney's Women in Science (WiSci) project

Julie Baz

Communications

Advisor

Penny

Oxford

Learning

Advisor

The
University of
Sydney

The Women in Science (WiSci) project, sponsored by the Faculty of Science at the University of Sydney, was officially launched by the Vice-Chancellor, Dr Michael Spence, on 8 August 2008.

Professor David Day, Dean of the faculty, initiated the project after becoming aware that although women are well represented among undergraduate and postgraduate students and even among postdoctoral fellows, they are under-represented among staff in senior academic roles.

According to Professor Day, women are also over-represented in the lower levels of the academic hierarchy and tend not to apply for promotion in the same numbers as men.

The project's goals are to identify the obstacles that prevent women achieving senior roles in the sciences, to encourage more women in the sciences into senior academic roles, and to support more women in achieving satisfying and productive careers in science.

At the launch, Dr Spence said that he was concerned about the ratio of women in senior positions at the University of Sydney. "Gender balance is very important for the quality of work across the entire University," he remarked. "Men and women work better in teams together."

A *WiSci* website has been created to function as a central information source for women in the sciences at the University of Sydney. The website details the project's goals and initiatives, and contains information on University resources such as family-friendly fellowships and links to other useful websites.

The project's first initiative was to survey male and female academic staff within the Faculties of Science, Veterinary Science, Agriculture, Food and Natural



Resources and the School of Medical Science. The survey was designed to surface the most pressing issues for women in the sciences and also to benchmark the experience and attitudes of academic women with those of male academic staff.

The survey questions covered research grants, development opportunities and participation in different types of leave. Participants were also asked to agree or disagree with series of statements, for example: *I feel like a valued member of the University community*, and *My working environment is generally accepting of gender difference*.

The survey received nearly 200 out of a possible 800 responses, a response rate of approximately 22%. Nearly two-thirds of the respondents were female academic staff. The responses are currently being analysed and the issues raised will be followed up with focus groups to gather more detail. A report will then be circulated to all the WiSci stakeholders.

According to the project team, some interesting trends have already emerged. For example, over 40% of female respondents, but less than 5% of male respondents, are currently working or have previously worked part-time. The project team plans to use focus groups to investigate the impact of a period of part-time work on an academic career and the availability of rewarding part-time roles.

Additional comments provided at the end of each survey response have also provided some interesting insights into

the issues that are of greatest concern to women in the sciences. These include a lack of female role models in senior academic roles, a lack of female mentors, concerns about workloads for early career academics and a perceived lack of career paths and job security for both teaching-only and research-only academic roles.

Further surveys are planned for general staff, particularly those in technical roles, and PhD students and post-doctoral fellows. ❖

To find out more about *WiSci* or to contact the project team, visit the website: www.science.usyd.edu.au/wisci.

*University of Sydney Vice-Chancellor, Dr Michael Spence, at the launch of the *WiSci* project.*



*Discussion panel of women working in the sciences at the *WiSci* launch. From left to right, Associate Professor Robyn McConchie, Director, Research Institute for Asia and the Pacific; Professor Robyn Overall, Head of the School of Biological Sciences.*



*Professor David Day, Dean of the Faculty of Science, at the *WiSci* launch.*



Reading and science — or how I learned to stop worrying, and love the book (again)



Jennifer Byrne is Head of the Molecular Oncology Laboratory within the Oncology Research Unit at the Children's Hospital at Westmead. She is also a conjoint Associate Professor and Deputy Postgraduate Co-ordinator within the University of Sydney Discipline of Paediatrics and Child Health.

The nice thing about writing for the WISENET journal is that during the weeks that it takes me to put hands to the keyboard, my original idea for an article manages to change into something quite different.

In this case, what began as a review of a single book has turned into something broader — and hopefully more broadly interesting as well.

I'm someone for whom there's no greater luxury than to be reading a book. Note that in this article, the term "book" does NOT include "PhD thesis", even though PhD theses are also books, and I often read them. In fact, I have a rule of never mixing PhD theses and books, as if I'm meant to be reading a thesis, the book will always be open, whereas the PhD thesis will remain unexamined.

For this reason, reading a book now symbolises that most wonderful and rare of commodities — free time.

However, as in the case of true love, my relationship with books hasn't always run smooth. As a child, like many non-sporty

kids (before the advent of computers and the like), I would literally read anything that I could get my hands on. Enid Blyton books, kids' encyclopaedias, years of issues of the *New Idea* magazine were all systematically devoured. My reading habits led to books being banned at the meal table, but if any book was discovered and taken away, I'd simply read the cereal box instead. Once I was in high school, English became a favourite subject. I particularly enjoyed the dissection of literary texts in years 11 and 12. What was the author trying to say? And why?? Even though we were reading books from the previous century, it seemed that there was still something new to discover between those pages.

My relationship with books changed somewhat when I started a science degree at the University of Queensland. There was no longer a balance between languages and science, and instead I became immersed in a world of hard edges: facts, formulae, multiple-choice exams. Things were either right or very, very wrong. After two years of this, on the rare occasions where we were asked to write an essay, I found myself unable to string words together in the way that I had previously found so easy to do. I discussed this with a friend at the time, who was studying law ("studying" being used in the loosest sense of the term). His immediate response was "Well, what are you reading at the moment?" "Reading!!" I remember shrieking, "Who has time for reading??" His response has stayed with me ever since: "If you're not reading anything, how can you expect to be able to write???"

This made me rethink the value of reading. I had come to regard this as an almost guilty pleasure, and not something that actually might have value. However, the problem of finding time for reading

"A few of my favourite things" - Jenny with some of her favourite books, including those mentioned in this article. Photo courtesy of Paul De Sensi, from the Children's Hospital at Westmead.

Jennifer
Byrne

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remained. Life was divided between University studies, a busy social life, and the issue of earning money. This didn't leave much time for sitting down with a book. The situation continued until the middle of my PhD studies, when my attitude to reading turned around dramatically the day my PhD supervisor told me about the "fantastic novel" that he was reading. I remember my jaw literally dropping in amazement. Here was surely the busiest person on the planet — a University professor, clinician, laboratory head and father of three — reading a book!! For fun!!! Well, I thought, if this person can find time for reading, so can I. Reading for fun was therefore resumed, with a vengeance. And rather than reading to escape from everyday life, as I had in the past, I started to seek out books that were somehow related to life at the laboratory bench. This was partly to help me understand the community of scientists that I'd chosen to join, and partly to find out whether anybody, apart from scientists themselves, understood the process of science and what made it work.

One of the books from this period that has influenced me ever since is "Life Among the Scientists: an Anthropological Study of an Australian Scientific Community". This was written by a team of anthropologists (Max Charlesworth, Lyndsay Farrall, Terry Stokes, and David Turnbull) about the Walter and Eliza Hall institute in Melbourne. The authors tried to dissect the social functioning of the institute in the same way that they might examine an isolated jungle tribe. Traditions and beliefs were described objectively, in order to explain the current values and consequent behaviour of the researchers. For me, it was a fascinating reminder that scientists are above all people in communities, and these communities require traditions, conventions and beliefs if they are to be sustained and grow over time.

A more recent favourite has been "A Beautiful Mind", by Sylvia Nasar. This biography of the Nobel-prize winning

mathematician John Nash came to my attention when it was a finalist for the Rhone-Poulenc science writing award, and was subsequently turned into a highly successful film, starring Russell Crowe. Having read the book before the film was produced, I wondered what moviegoers would make of the reprinted text inside its now glossy, air-brushed cover. It was not just the book cover that the film had air-brushed — most of the less tidy aspects of John Nash's remarkable story had been similarly erased. However, if you're interested in the lives of scientists behind their achievements, you really can't do better than "A Beautiful Mind". John Nash emerges as a complex, incomprehensible, infuriating and yet admirable character; a reminder that these qualities can't always be neatly separated. Exceptional people tend to be driven to behave exceptionally, and not always in ways that society admires and approves.

But finally, I come to the book which I intended to review in the first place, which is "Intuition", by Allegra Goodman. Whereas the previously-mentioned authors wrote about real events and people, Goodman created a fictional research institute and laboratory, with astonishing precision. "Intuition" has largely received attention as an examination of scientific fraud, and indeed, this is what has attracted many readers, including myself. I've always had a secret fascination for scientific fraud, which I see as the scientific equivalent of going over to the dark side. I very clearly remember my French postdoctoral advisor telling me that a scientist's problems really begin the day that someone in their research group starts "making it up".

On the surface, fraud is certainly what "Intuition" is about. The story centres around Cliff and Robin, two postdoctoral scientists working in the same laboratory. Cliff is a golden boy who's somehow failing to live up to expectations, and likewise Robin, older and more experienced, is also seeing her career slipping from her grasp. When we first meet them, they

are also becoming an item, in part due to long hours spent together in the laboratory (and who hasn't seen that happen?) Cliff is in trouble with the two laboratory heads, as he somehow hasn't been able to spin his talent and charm into the laboratory equivalent of gold — the 'right' kind of results. He is on the verge of being thrown out, when he suddenly makes an amazing observation. His fortunes thereby reverse, and he is treated as a hero and saviour instead, and even given hands-on help with his experiments. This is surely the postdoctoral equivalent of hitting the jackpot! Ironically, help is first sought from Robin, who's told to stop working on her seemingly dead-end project, to fast-track Cliff's emerging paper. (And who hasn't seen *that* happen?) Robin is of course unhappy to be detoured from her own work, and assigned as a handmaiden to her younger colleague. However things worsen considerably when Robin discovers that she can't reproduce Cliff's results. When she decides to act as a lone whistleblower, their relationship sours, and we see the laboratory members' allegiances fracture and realign, depending upon who believes (or wishes to believe) whom. This is an amazingly real description of the different ways individuals — and institutions — react to, and deal with allegations of fraud.

However, as much as "Intuition" is about fraud, it also contains a strong sub-text about the influence of gender in science and academia. Allegra Goodman captures the dilemmas faced by female bench scientists with a great deal of subtlety. We see Robin, somewhere in her thirties, without a secure job or home-life (which have all been put on hold while she chases her scientific dreams) knowing that time is running out on all fronts. It is also clear that she faces a family who lacks understanding of her choice of career. Her father, in particular, can't understand why she bothered to become a "doctor", only to be paid so badly. It is perhaps because Robin's dream is so important to her, that she cannot tolerate the thought of anyone succeeding through dishonest

means. Allegra Goodman also quietly captures the transplanted lives of women who follow their scientist husbands half-way around the world, to live in strange countries while their husbands lock themselves away in a laboratory. A lot of the behaviours described are portrayed as neither healthy nor sustainable, but this is what obtaining "good results" demands. And while science is portrayed as a culture which tolerates individuality and even eccentricity, there are clearly-portrayed swift and definitive punishments for anyone who transgresses its unwritten laws.

In the end, it is left suitably unclear exactly what happened with Cliff's early experiments. This appropriately highlights the fact that much of scientific misconduct is probably unintentional, with only a minority of offences being calculated and planned. Most importantly, "Intuition" serves to remind us that science is done by people, and in their very real desire to reach some immutable, unshakable truth, this humanity is both a help, and a hindrance.

If any readers are interested in other books set in laboratories, visit the Lab Lit website <http://www.lablit.com/>, which devoted to "the culture of science in fiction and fact".

And pass on my friend's advice— if you wish to be able to write well, don't forget to read. ❖

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