

WiSeNet

Journal



Ground-truthing in the Rajasthan desert.



**Margaret Friedel's
Desert Journey...** p6



Margaret Friedel with Indian colleagues.

WOMEN IN SCIENCE ENQUIRY NETWORK

OBJECTIVES

- to increase women's participation at all levels in the sciences where they are now under-represented;
- to examine the education and employment structures which currently restrict women's opportunities in the sciences;
- 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;
- to explore linkages between the different disciplines and promote communication between scientists and the community on social and environmental issues;
- to examine the relationship between scientific research and technology and promote research and technologies more appropriate for world needs;
- to explore programs for change in the sciences and support more democratic and participatory systems as an alternative to the male-dominated tradition;
- to build an active network of people interested in these issues and to liaise with other interested groups;
- to support appropriate action to achieve these objectives.

Women in Science Enquiry Network (WISNET) 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.

WISNET was formed through the establishment of a series of state branches. Regional groups, such as those based in Wollongong and Lismore in NSW have also been formed. Interest groups, such as that responsible for the historical exhibition on Australian women in science, have also been active. State and regional branches act autonomously, focusing activities primarily at a local level but also joining with other groups for more general issues.

WISNET is open to women and men who are involved or interested in the sciences and are interested in working for change in line with the objectives. New members are welcome. If you would like to join please complete and return the application form on the inside back page of this issue.



PO Box 647, Glebe, NSW 2037, Australia

EDITORIAL

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Avoid sexist or other discriminatory language. WISENET reserves the right to make editorial changes. Each article is the opinion of the author and not necessarily that of WISENET
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In this journal we are delighted to have Margaret Friedel's account of her work and life in the (not so isolated) Northern Territory. There is also a lively contribution from Patricia Mather entitled "How can she call herself a feminist and dress like that?" (p.12) Not everyone might agree with Patricia's views and WISENET invites readers to comment. We also profile Jo O'Neil, our new link in Victoria.

Sue Key discusses the importance of mentoring in career development and bemoans the shortage of suitable mentors for women. Mentoring is mentioned a few times in this journal. Various groups within WISENET have been discussing this issue and what role, if any, WISENET could take in setting up a mentoring program. There is general agreement that mentoring is great when it happens, but some believe that it works best when the link is forged spontaneously, not arranged.

Also, who should be targeted? We speak of the 'leaky pipe' – the tendency for women to embrace the educational opportunities, but move away from science fairly early in their careers. Is this the group that would benefit most?

If WISENET were to participate in a mentoring scheme, or perhaps a web-based networking facility, we are too small to do it alone. Also, we are currently lacking in volunteers to run WISENET itself, without taking on additional responsibilities. If funding were available, a manager could be appointed to administer the plan, as pointed out in Jo O'Neil's report (Page 24). Carmen Lawrence suggested to the Melbourne Roundtable that groups with a common interest, who put forward joint requests for funding might fare better. So perhaps we could extend the initiative of the Victorian group and contact more like-minded organisations to see if they would be interested in a joint proposal. Any volunteers?

The WISENET Central Link Team gets the blues when we dwell on the shortage of active members, and the possibility of an organisational vacuum; see the AGM report on page 18. And yes, this is a less than subtle way of calling for help.

However there are some exciting times ahead, most notably the second Women Achieving in Science Conference (WAIS2), planned to be over two days in Sydney in August 2002.

Julie Evans

Welcome to our new Members:

Alison Edwards (ACT)
Judith Hazel (ACT)
Lyn Hinds (ACT)
Kate Loveland (VIC)
Jane Van Vliet (NSW)
Alison Mohr (QLD)

WOMEN ACHIEVING IN SCIENCE AND TECHNOLOGY,

*Compiled
by Diana
Temple*

Eureka Science Prizes 2001.

The winners were predominantly male, but there were several impressive teenage girl students among them as well as two adult women.

The Newton Moore Senior High School in Bunbury WA won first prize in the Macquarie University-sponsored **Eureka Schools Prize for Earth, Environment and Planetary Sciences**. Their team of five year 11 and 12 students developed a website about the school's wetlands, particularly about the frog population. The prize was accepted for the team by **Megan Patroni**. Other prizes in this section were won by **Melissa Duncan** of All Hallows School, Brisbane, whose project was life on other planets, **Mia Crisp** of Pymble Ladies' College, Roseville NSW, who studied the origins of life, and a group from Chatswood High School NSW for a global warming study.

The University of Sydney-sponsored **Eureka Schools Prize for Biological Sciences** was won by **Lin San Lau**, aged 15, of Rose Bay High School, Lindisfarne Tasmania, who developed a website about dyes from Tasmanian eucalypts.

The **Michael Daly Eureka prize for Science Journalism**, sponsored by the Department of Industry, Science and Technology, was won for a feature item on ABC-TV's now defunct Quantum program called **Unearthing Evil**, showing the application of archaeological methods to the study of war crimes. The winning team was **Leigh Dayton** (reporter), Paul Schweller (producer) and Chris Spurr (editor).

The **Reed New Holland Eureka Science Book Prize** was won by **Patricia Vickers-Rich**, Professor of Paleontology at Monash University, and **Thomas Rich** of Museum Victoria, for **Dinosaurs of Darkness** their book about their Victorian excavation of 100 million year-old dinosaur bones. On page 192 of the book, in a section headed "Child Care", the authors comment...."the single most useful act that would have helped both of us ...in our research and field lives would

have been available help with our children. ...Pat was cooking full time, managing the camp (30 members) and trying to do some field work.....If this is what society demands of its scientists with parental responsibilities, then so be it, but we feel that it would be a reasonable step to allow research grant applicants an item for in-the-field child care. It has far too long been a taboo". And so say all of us.

Dr Amanda Vincent, a Canadian academic biologist, heads a team of 33 scientists in Project Seahorse, an international seahorse conservation project currently running in Sydney Harbour. Marine farms have been established in the Philippines to encourage sustainable trade in seahorses, which are used in traditional Chinese medicine. Dr Vincent, who won the 2000 Pew Fellowship in Marine Conservation for her work, has received a \$1.4 million grant from the Belgian chocolate company Guylian whose product is "seahorse chocolates". The project has not received Australian government funding. The grant will enable Project Seahorse to extend its research into Australian waters, where 13 of the world's 32 species are found. Amanda has also studied dugongs in Shark Bay, Western Australia. *Sources- Weekend Australian, 20 May 2001, Australian Magazine, 9-10 June 2001*

Joy Ho, a medical scientist at Sydney University, has won the Leo and Jenny Leukaemia Foundation's Young Researcher of the Year award and the Royal College of Pathologists of Australasia's Kanematsu Memorial Award. The recognition is for her innovative research on multiple myeloma, a serious cancer of plasma cells. Dr Ho has a medical degree from Sydney University; she is a Research Fellow in the Centenary Institute of Cancer Medicine and Cell Biology and a Staff Specialist in Haematology at Royal Prince Alfred Hospital. *Source: University of Sydney News, 18 May 2001*

Among eight Fulbright Scholarship winners from the University of Sydney are **Raina Plowright**, a veterinary Scientist, and **Bernadette Harrison** of Public Health.

WWW.
nytimes
.com

Shirley M. Tilghman, a molecular biologist who was among the architects of the national effort to map the human genome, was named the 19th president of Princeton University in the USA. She is the first woman to Head Princeton. *Source: New York Times website*

After 10 years negotiation, legislative changes passed recently in NSW allow nurses to upgrade their skills to be accredited as nurse practitioners. **Olwyn Johnston** has been appointed as the first Nurse Practitioner in the small town of Wanaaring in NSW. She is able to prescribe medication, make referrals, treat injuries and order diagnostic tests. Members of the medical profession are concerned that these functions are properly the concern of GPs, but while there is acute shortage of medicos in remote rural regions there seems little doubt that some communities will benefit from Olwyn Johnston and fellow nurse practitioners in country centres.

Congratulations to **Eve Laron** of Sydney on the award of a Medal of the Order of Australia (OAM). In 1983, Eve, an architect, founded Constructive Women, an Association of Women Architects, Landscape Architects and Town Planners, which provides a forum of ideas and support for women in the construction industry. She describes a building site as "still nearly a completely masculine institution". During the 1980s, Eve came and spoke of Constructive Women to WISENET's Sydney group.

Acram Taji has been promoted to Professor of Rural Science at the University of New England. WISENET member Acram has a great record, having previously featured in this column as Australian university teacher of the year in 1997. She is also deputy chair of the UNE academic board. The Australian

newspaper (Nov 8, 2000) reports that she works 80 or 90 hours a week, starting at 4 am, in order to find time for her research and writing. She came to Australia 30 years ago from Iran, and added Australian higher degrees in horticulture and plant physiology to her Iranian agriculture degree; she married an Australian academic whose is based at the University of Queensland - not surprisingly, she comments on the difficulty for young women with families to juggle academic and family life. Congratulations Acram.

Tasmania is working on the gender imbalance in science and engineering, Pru Bonham reports. Five scholarships were awarded by the Tasmanian government to young women studying first-year engineering at the University of Tasmania, where currently 14 of 102 engineering students are women (Australia-wide, only 2% of 33,000 graduate engineers are women). The \$3000 per annum scholarships were awarded to **Michelle Erwin, Clara Crouch, Claire Brownell, Sandy Long** and **Nyssa Skilton**.

The Rio Tinto Australian Science Olympiad awards were distributed along what some see as science gender stereotype lines. The gold award in biology was won by **Madeleine Tidsley** of Friends School, with silver and bronze awards to **Elena Kornaczewski** and **Jane Mills**; in Chemistry, winners were Steele Broderick, James Gourley and Alexander Bissember.

Amanda Tilbury has won the Environmental Young Achiever award in this year's Western Australian Youth Awards. Amanda is a PhD student in chemistry at the University of WA and is working with CSIRO Land and Water. Amanda discovered, at a polluted site near Perth, a microbe that consumes atrazine, a common herbicide. The microbe is named *Pseudomonas AT2* after Amanda. *Source: Coresearch*

Please send contributions on achievers to Diana Temple: dianat@med.usyd.edu.au

DESERT JOURNEY

Margaret Friedel

Joining CSIRO Land Resources Management back in 1974 did not involve the formal interview procedures we have today. No gender-balanced interview panel and carefully worded questions probed my abilities for the job. Instead, I arrived in Alice Springs at the end of an international conference when all the staff were in the mood for celebrating. Some of my clearest memories are of pistol shooting down the hallway of a (soon-to-be) fellow scientist's home, at targets on the sitting room wall, while the Divisional Editor ducked stray pellets behind the couch and bobbed up to check the score, and cries of "She'll do" from tech staff when I entered the tea room (it was the mini-skirt era then).

But there was a serious purpose to the fun. I had applied for a Research Scientist position at Alice Springs, to study nutrient cycling and its role in maintaining soil fertility and ecosystem stability in arid Australia. My

PhD had been on productivity decline in *Pinus radiata*, with a particular focus on changes to nutrient cycles in second rotation plantations. Early on, my scientific capacity had been assessed from a review of the thesis by two senior CSIRO scientists. The visit to Alice was really to see if I could fit in to a small but enthusiastic research group, and whether I could make a go of living and working in the outback.

To me it was all a huge adventure and a great privilege to be offered a job with CSIRO in a place I had dreamed about. Science had been my chosen career since the age of eleven, although I had no idea what kind of science it might be. Looking back, one of the most important things in the early development of what became a career, was to keep an open mind about what was possible. I had thought about becoming a microbiologist, then a marine biologist and then for a while, it looked as though forestry was the way forward. Decisions were driven by available courses at Melbourne University, how much I enjoyed them, and the thesis topics offered by potential supervisors.

With the offer of a post doctoral position in forestry in Canada, the die was almost cast, but I took a temporary job teaching trainee teachers in a bush camp in Gippsland. Teaching young and enthusiastic people about science and the environment, and joining in bushwalks and snow camping, extended into three years and the post doctoral work slowly faded from my 'must do' list. Along the way, I completed a Dip Ed. but eventually decided I should try to return to research before my skills were outdated. The joy of working in a bush camp with a great group of teachers and students was tempered by rain, cold and mud, and sleeping in army tents, and so my thoughts focused on somewhere warm – Alice Springs!



Margaret Friedel

Luckily for me, having no formal training in ecology and no knowledge of the arid zone was not an impediment to becoming an arid lands ecologist, but I doubt young scientists would be so fortunate today. Critical elements were working with supportive colleagues and being mentored along the way. While I did not recognise 'mentoring' consciously at the time, there were significant occasions when I was encouraged and put forward for a task, and always by male colleagues, since women scientist were rare in that world. Ray Perry, the Chief of the Division then, remained a key mentor for many years after our group was no longer affiliated with his Division.

Keeping an open mind about what is possible has continued to be important. With the collective wisdom of fellow scientists as a guide, research on nutrient cycling soon expanded to include the productivity of grazed native pastures, which had been assessed to be in different 'states' as a conse-

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quence of the way they were managed. Imagine my surprise when my beliefs about these managed systems were challenged by a colleague in Canberra, who suggested that the assessments might be wrong and hence so might my conclusions!

A new research stream opened up. What were the theoretical and practical bases for the assessment of the condition of rangelands (the US term for grazing lands)? Luckily, many of the conventional theories of vegetation change and succession were being challenged at the time, most notably in a landmark paper by Westoby, Walker and Noy-Meir, and there was room for new insights. Land management agencies in

Australia were keen to review or develop rangeland monitoring systems too so that I could learn from colleagues both locally and interstate. A six-month fellowship from the South African Department of Agriculture in 1985 gave me the opportunity to expand my understanding of vegetation change in another fascinating environment.

I also explored the dynamics of woody plants in central Australia, and how different kinds of land had contrasting problems – some were rabbit infested and had only relict populations of woody plants, while others were burnt too infrequently and had become choked with shrubs. I became a junior partner in a study of fire in the arid zone and later worked closely with a senior technician to mine his wonderful diaries for information about phenology of arid zone shrubs and trees, which we subsequently published.

Scientifically, a powerful influence on later work was the expansion of skills in the Alice Springs group, now the Centre for Arid Zone Research, to encompass remote sensing, and the landscape-scale insights it provided. The group as a whole developed perspectives on structure and function of landscapes and how different scales were integrated into one another. This was a crucial development, since practical grazing management was based on pastoral properties of 2-5000 sq km and paddocks of sometimes several hundred square kilometres. Small-scale grazing trials were costly and could never mimic the grazing patterns created by free-ranging cattle. While I worked with colleagues to refine range assessment technologies at ground level, to match our growing understanding of grazing lands, others developed complementary methods based on remotely-sensed data.

Of course, grazing is not the only land use in the outback and it is certainly not the major money earner, although it occupies very significant amounts of land. By the early 1990s, pressure was growing for regional-level planning and the inclusion of other land uses. I became part of a team of people from government and non-government organisations, with diverse skills and interests, researching how to involve rangeland communities in land use planning.

Suddenly, understanding arid lands ecology was only a minor component of the skills needed. Learning on the run, we had to develop abilities in politics, social science

and economics – all essential if we wanted to make our research relevant in the real world. We worked with the North East Goldfields community as well as a much broader constituency, to understand needs and possibilities. At the end of the project, we had an established group with the capacity to become leaders in natural resource management for the region, and a real appreciation of the participants – Aboriginal people, conservationists, diversifiers, miners, pastoralists, prospectors and tourism operators.

Aboriginal people, conservation and tourism were also important in another project I had the good fortune to undertake in the 1990s. Working with traditional owners, research staff and rangers at Uluru-Kata Tjuta National Park, we investigated the impact of tourism at key locations around the base of Uluru. By locating 100 years of photographic records and interviewing people with long memories, we were able to show that much of the damage was generated in early years of unfettered tourist access and subsequent efforts at rehabilitation, but that tourism was secondary to major natural events like drought, fire and floods.

Personal highlights, many not at all scientific, included marriage to historian and writer Dick Kimber who, like me, had to live in the government hostel for single people in the earlier 1970s. Single people were not entitled to housing, with the fortunate outcome that we had a hectic social life in the hostel and still have many long-term friends from that time. Our son and daughter were born in the early 1980s and Dick gave teaching away to become their primary carer. We managed to share parenting very happily, with small babies being brought in to the office for feeds at all hours. With Dick's support through my absences interstate and overseas, our children are now a cheerful pair of young adults and, what's more, Dick's own career has burgeoned.

In the 1980s, I became the first woman president of the Australian Rangeland Society, and chaired their Publications Committee for seven years. With Ray Perry's encouragement, I became active in the management of International Rangeland Congresses, becoming a member of the International Continuing Committee in 1991 and its first woman chair from 1995-9. I was honoured to receive an award from the US Society for Range Management in 1996, for work on

vegetation and soil change and the concepts of 'thresholds' or stepwise rather than continuous change. Once again I was supported by a colleague, this time Prof Bill Laycock from the University of Wyoming.

If I reflect on where I started and where I am now, I am reminded once again of the importance of keeping an open mind about possibilities. I inherited responsibility for our lab's remote sensing group a few years ago, knowing almost nothing about remote sensing. While they may say that I still don't, I have learned an enormous amount from them and greatly enjoy working with a skilled and dedicated team. Currently, I am managing a project in the Rajasthan desert with colleagues from Alice and Jodhpur, to test and adapt our remote sensing technologies to Indian needs, including their social and economic context. This is a far cry from nutrient cycling in pine plantations, and something for which one could never have planned.

Science is rarely a solo occupation in my field. Expert technical support as well as scientific advice have been essential to the things I do – it's pleasure to acknowledge all my colleagues and the adventures we've shared, sometimes in remote and beautiful parts of the outback.

From time to time I talk to school students about what they need to become scientists and technicians, and I am sure they expect a list of subjects. What we have found in our lab, and what I think is generally true, is that subjects are just one aspect of the skills that people need to have rewarding careers. A delight in ideas, an open mind, a willingness to change and the ability to work in teams are also key skills. On the other side, we need mentors and opportunities, sometimes simply luck! I believe I have had plentiful luck.

Margaret Friedel is a Principal Research Scientist at the Centre for Arid Zone Research in Alice Springs, part of CSIRO Sustainable Ecosystems.

JOCELYN O NEIL

CONVENER OF WISENET MELBOURNE

Diana Temple

Educated in Sydney, but based in Melbourne for most of her life, Jo O'Neil is a great example of a woman scientist of her generation who has successfully "done it all".

As Jocelyn Pennefather, she started her scientific life at Sydney University with a BSc in Pharmacology. While employed as a research assistant then research fellow in the department, she progressed to Masters and PhD degrees under the guidance of Professor Roland Thorp, who was, unlike some, supportive of young women in science. She married John O'Neil, a computer-specialist, during this period.

Jo did not drop out or succumb to the difficulties that sometimes seem to overwhelm young women early in their scientific careers. She had two children, Susan and Allan who have themselves been successful in science-related careers.

Jo's academic career progressed through overseas post-doctoral positions at University of London and University of Minnesota then lectureship and senior lectureship, initially



Jo O'Neil

part-time, at Melbourne University and then Monash University. At Monash, she was promoted to Associate Professor in 1988 and was deputy Head of Department for much of the period before her "retirement." She now is an Honorary Associate Professor at the Victorian College of Pharmacy and an Honorary Principal Fellow in Obstetrics and Gynaecology at Melbourne University. During all this time, her research, concentrating on neuropharmacology of the genitourinary system and the effects of hormones on this system, was highly successful. She has been the recipient of research grants for much of the past twenty-five years and been involved in many collaborative projects with colleagues in other institutes; she has over a hundred refereed publications and many more published communications. She supervised about 60 honours and higher degree research students, many of whom have been women. She has coordinated and taught courses to medical and science students and done a huge amount on university administrative committees, as happens particularly to women in this era of political correctness.

Jo has been involved in Affirmative Action through the Coordinating Committee at Monash University, and throughout her working life has worked for improvements in women's position, including serving on the team that prepared an evaluation of women and EEO at Melbourne University in 1974. Her very busy life has included many overseas visits, speaking at conferences and working for periods in the laboratories of overseas collaborators.

She has woven, more effectively than most of us, the complex strands of her life: research, teaching, committees and family (now including grandchildren). She continues with research at the Royal Women's Hospital, and with other interests, a significant one being work for WISENET.

AN INTERVIEW WITH PROFESSOR SUZANNE CORY,

Gael Jennings

These days, since the discoveries of the Human Genome Project, many of us justifiably expect to find out if anything is wrong with our genes, and perhaps get them fixed. Yet only a few short years ago, there was so little knowledge about genes that this was unimaginable.

To predict the link between genes and disease 30 years ago took great foresight. To prove it took faith and a touch of genius. And that's what our guest did. With her husband Dr Jerry Adams, she was the first in the world to show that cancer is caused by defective genes.

Now a world-famous, highly respected scientist, and successor to Sir Gustav Nossal as Director of Melbourne's Walter and Eliza Hall Institute of Medical Research, Professor Suzanne Cory was yesterday awarded the prestigious international L'Oreal- UNESCO Women in Science Award.

GAEL JENNINGS: Congratulations on winning the UNESCO L'Oreal Women in Science Award.

**PROFESSOR SUZANNE CORY,
GENETIC SCIENTIST:** Thanks very much, Gael.

GJ: Now, the award is for your work on the link between genes and cancer. Do genes cause cancer?

SC: Yes, very much so. Cancer is a malady of the genes, as Michael Bishop, the Nobel laureate, said. Accidents occur to our genes - mutations, in other words - and they are the underlying cause of cancer.

GJ: Of all cancers?

SC: Yes. Basically, these accidents can occur in different ways, though. Sometimes they're inherited - we have a slightly faulty gene. Sometimes the accident happens during our lifetime - there's a small probability of any process in the body going wrong, and sometimes it does. And sometimes it's imposed by the environment. For example, too much UV light damages our DNA, as everybody knows by now, with the 'Slip, slop, slap' campaign, or asbestos or irradiation. So lots of things in the

environment can also cause damage to our genes.

GJ: So it seems amazing that after all this time and all the billions of dollars of research, decades of research, we haven't eradicated cancer. Why haven't we?

SC: Well, it's a very complex disease. More than one genetic accident has to occur for a particular tumour to develop, so in fact, there's a succession of errors in that tumour by the time it arrives. It's got a lot of faults in it. A lot of things have to be fixed up if you're going to be able to, say, reverse that tumour. It's in essence the life process going wrong. And we have to come to grips with understanding the whole life process of ourselves before we really understand cancer. So it's a very complex equation we're trying to understand. When we understand it more fully, we'll be perhaps able to interfere more effectively. In fact, I'm quite sure we'll be able to interfere more effectively.

Maybe to you it doesn't seem like we've made much progress because people are still dying of cancer, but in fact there are more, far more, cures of cancer than there were before. We know a lot more about environmental causes and so we can... the incidence of smoking, of lung cancer in men from smoking is on the downward turn because of public awareness campaigns, and new drugs are starting to emerge from the revolution in genetics that's gone on over the last 20 years. That has given us so much more knowledge. We now can tackle the problem with much more effective knowledge.

GJ: Over 30 years ago, you and your husband, Jerry Adams, were one of the first in the world to actually start to research on genes and the relationship between genes and diseases. Most people were still looking at big cells, but you went below that and looked at the molecules of the genes. Did you envisage at all how big genetics would become?

SC: No, I think even in our wildest dreams, when we first set out on our, if you like, our journey into molecular biology some 30 years ago, we didn't imagine we'd be as far forward - I mean 'we' in the collective sense - as we are now. It's been a tremendous revolution. We

didn't even dream of what we would find, and we certainly didn't dream we'd be as far forward as we are now.

I think the revolution that's often called genetic engineering by the public and which we scientists call recombinant DNA basically lifted the order of the game by several orders of magnitude, and so the pace of discovery was much faster. And now with the Human Genome Project complete, that's another very big tool that's been given to us, and I think you can see even faster rate of discovery over the next decade.

GJ: What did you imagine back then? What were you imagining?

SC: Well, you know, back then we were trying to understand how very small organisms, very tiny viruses worked. We were trying to understand them at the molecular level. Trying to understand how a cell as complex as the cell from you or me worked, how it divided, how it stopped dividing - that was much more complex, involving many, many thousands of genes instead of only, say, some 5 or 10. So we didn't imagine we would be able to deal with that complexity at that time.

GJ: And in the time that you've been a research scientist, there's almost been a doubling of scientific knowledge overall. What's that been like?

SC: Well, you know, it's hard to keep up with, and the effect has been, I suppose, that everyone has become more specialised in their knowledge base. The counteracting thing there is that we've started to work in bigger teams, so everybody brings their own specialised knowledge base to bear and their own skill base to bear on the problem that they're trying to tackle and work as a team together. And together, they have far more knowledge that each one of them knows individually.

GJ: Just looking back, what was the singularly most wonderful moment?

SC: Scientifically? Well, I think I've been lucky. There have been a few of such moments. It's really quite magic when you understand something for the first time that nobody else in the world at that moment understands. That is a real 'Eureka!' experience, and it's those experiences that keep you going through the long down times that also occur.

GJ: And in the future, what diseases do you think we will have eradicated, and what will be killing us?

SC: Well, I think it depends what country you're talking about, of course. In Africa, infectious diseases are still the major killers. In Australia, cancer is one of the biggest killers. I think if you talk to the director of the Anti-Cancer Council, he would say that in 20 years time, we will have far fewer deaths from cancer. In fact, he would go as far as to say that we may have largely eradicated cancer. I think that neural degenerative diseases like Alzheimer's will still be a very significant problem in our society, but I think that we can hope to see major advances in neuroscience that may come to grips with that as well.

GJ: In our program tonight earlier, we were looking at the state of Australia's universities. Do you think that the university system is adequately preparing Australia for the future?

SC: I think it's very important that we have very strong universities, and I think it's very important that we have very strong public funding of universities so that as many of our bright young people can enter university as possible, because we need... you know, we're facing a very competitive environment in the future. We're going to need as much knowledge in science and engineering and technology as we can muster to be competitive in the future. Therefore, we must have to have strong universities, and therefore we have to invest very strongly now. We cannot let our universities run down.

Having said that, I think the Government fully recognises this and they have already doubled the funding in medical research over the next five years, and recently they announced other major new funding in the other university system, the ARC. I think they're investing wisely, but I think we have to keep persuading them that they need to invest still more, because governments overseas are investing hugely.

GJ: So do we run the risk of falling behind?

SC: Yes, we do. We have to keep the investment up.

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HOW CAN SHE CALL HERSELF A FEMINIST AND DRESS LIKE THAT?

*Patricia
Mather
Honorary
Associate,
Queensland
Museum*

Correspondents to a recent AWISE Journal (Forum 7, p.9), under the heading "Vive la Difference", refer to an implication that women's aspirations and attainments in science are prejudiced by good manners. It is further implied that these are (a) the exclusive prerogative of women; and (b) less conspicuous in those who are most successful in a competitive world.

While the number of women in science is not impressive at any level, it does not follow that this is because their manners are good. There are more compelling explanations for the poor statistics than a negative correlation between good manners and success.

Although it is more important than ever that these persistent poor statistics should be reversed, it should not be done at the cost of women's right to be female and feminine. Women have as much right to be feminine as males have to be masculine. Their right and responsibility to aspire and to achieve in all those fields available to men, does not entail emulating the men. It is women's strength to be different from men.

What is it that has made a modern woman? How have they evolved, and what can be learnt from it? Forget survival of the fittest in



Patricia Mather

the sense of the battle is to the strong and the race to the swift - that may be the Olympics - but it is not natural selection and evolution. Natural selection is about populations - and the way that genes for the inherited qualities that result in reproductive success exponentially increase. These inherited qualities include the ability to find better food and shelter, suffer less disease and produce more and healthier offspring, that in their turn find better food and shelter for their offspring.

The range of strategies for reproductive success reflects a trade-off between numbers of progeny and parental care. In many invertebrates, such as frogs, fish, and some reptiles, much energy is devoted to producing large numbers of offspring and little or no care is taken of them. Fertilisation usually is external, and selection acts on the gametes as well as on developing embryos and juveniles. Some are eaten, some get lost, some starve but the best do well and their genes will be passed on to their progeny and contribute to their increasing frequency in the population. At the other end of the scale are species that expend their energy in long term care of very few young. Birds lay few eggs and care for them and the hatchlings; mammals suckle and care for their young. These organisms usually are internally fertilised so there is no waste of reproductive material. There are powerful strategies for courtship for the same reason: so that the few eggs produced are not wasted on another species. Hormone regimes delay maturity and individuals are exposed to selective pressures before reproductive age. Only those with the necessary adaptations get to reproduce. Think of the battles in many wild mammal populations between males: only the dominant, the 'strongest', win the chance to mate. Then, after so much energy has been spent on so few progeny, it is not likely that evolution would see them wasted by a lack of care if that is what is needed. There is no adaptive value in careless parenthood - in fact there is heavy selection against it.

All sorts of combinations of these two opposite strategies exist, but the only one that concerns us here is the one at the end of the scale - those species that produce few offspring and care for them both in utero and

after birth for long periods. All sorts of mammals (especially large ones - elephants, lions, horses, cows, whales) share this strategy with humans, but of them all, our young are born most helpless. The young of tetrapods and marine mammals can move independently, but *Homo sapiens* babies are helpless, born relatively early in their development, and they need care to bring them to adulthood.

Another big difference between us and most other large mammals is that females live past reproductive age. What an enormous load for a species to carry - all those apparently non-productive females to share the available resources. Only some whales and possibly elephants, long-lived animals, living in large kinship groups that teach their young, are like us in this regard. In these groups, genes for short-lived females who don't live past reproductive age were not selected, nor were genes for a longer reproductive life. Yet natural selection always is efficient.

So what is it about these aged whales and women that gave their communities an adaptive advantage? Non-reproductive whales continue lactating and feeding the young calves, allowing the young females to have more offspring: they are more fertile when not lactating. Post-reproductive women do not usually go on lactating, but they can and, in primitive societies, sometimes do. Historically, these older women cared for and taught the young. These 'tended' young were more successful than others, and the genes for long-lived post-reproductive females increased in frequency in populations. There they were, early hominids - females, erect on 2 limbs, babies held on one arm, and the other used to gather seeds and fruits, tend the baby, groom, hold onto things, manipulate objects with that very clever opposable thumb. While the male hunted and the grandmothers cared for and taught the infants, the young women had new babies, kept the cave clean and gathered food

And here we are, most of us, 2,000,000 years later, still doing the same thing. Keeping the cave clean, having the children. Women still gather the food, but from the supermarket shelf, and with the other hand they push the trolley with the baby in it. Nevertheless its not a full time job - shopping; the grandmothers don't do much teaching either - the tricks children need to learn are often beyond even their mother's skills, let alone her mother's (and she probably lives in Perth).

Now that we have child care and schools, refrigerators and vacuum cleaners, women have a lot of spare time. Meanwhile the men are out doing all that exciting hunting, although it is no longer the macho-masculine, heroic, mammoth-killing stuff it used to be. Women can do it too, yet many of us embrace it less than enthusiastically.

Late in the Year of the Older Person (1999) I was invited to a meeting of what were called elderly distinguished women scientists, convened by science historian Ann Moyal. A few were distinguished, others were or had been practicing scientists; there were also science teachers, science writers, and technicians.

Few of these women had held regular appointments with steady promotion such as a male academic would have experienced. Although many had achieved recognition in science, few had achieved high career status. As one young female science historian complained "Yet you all say 'how lucky you have been!'". Probably the same has happened in many other fields. Germaine Greer wrote a marvellous book, *The Obstacle Race*, about female artists; she concluded they were few because they had been busy looking after men - or the children, or the cave. I believe those women also would have said they were lucky, lucky to be able to practice their art in their spare time. Probably that has happened in my own field, biological science.

Biology, along with other sciences, is not a discipline for which there were many openings in the 17th, 18th, and 19th centuries. From an early time universities had medical schools, as well as classical studies, philosophy, theological and law schools-but no science and especially no biology or natural science. From the 17th to 19th centuries, great exploring voyages increasingly took men to distant places, and strange and different plants and animals were brought back to Europe. People became aware of the enormous diversity of life and were curious about it. Great museums were established to house specimen collections: in London the Royal Society Museum (1681), then the British Museum (1753) when Sir Hans Sloane's collection of 80,000 rare and curious items was sold to the nation for 80,000 pounds.

Later, French, English and Dutch naval vessels surveying new lands carried naturalists, often but not always the ships surgeon, such as the great Thomas (Henry) Huxley,

the first person to work toward the development of professional positions for scientists. There were the famous dedicated collecting expeditions of the 19th century. The specimens they brought back stimulated the curious and added to knowledge. Museums and universities began to employ professional biologists, but until the 20th century they were a mere handful. Those who advanced and practised natural history were largely amateurs - theologians, who may have had the time, or men of means like Joseph Banks and Erasmus Charles Darwin. Only men, apparently, shared the excitement of natural history; not even the occasional equivalent of a Jane Austen strays into the bibliographies of natural science.

In the 19th century this changed - women were often the painters, illustrators, collectors, and helpers. In Australia they included Elizabeth Gould, Ellis Rowan and Georgiana Molloy. They developed a profound knowledge of the biota, but they did not become scientists as did the men - the theologians and men of means, the amateurs. I believe these women also would have said they were lucky, lucky to have been doing something they were good at and enjoyed, and lucky to have served the patriarchy of science. But why, when so many of them must have had the time to devote to it (just as much time as theologians and men of means), did they not become the doers rather than the helpers?

Why do we think we were so lucky? I think it is because it is very difficult for a woman to have a career. It is difficult physically, but most of all it is difficult emotionally. There are all those years of selection to overcome. Being a woman endows you with a combination of hormones that emphasise reproduction - you are socially conditioned and biologically adapted to be courted, to mate, to conceive, give birth and give care - and why should you not?

In our society, the moment of truth that emphasises the difference between men and women is in the mid-twenties, when you have your foot on the first rung of the ladder. You've completed your graduate degree, you have pleased your supervisor, and you are ready for that exciting post-doctoral appointment in the laboratories of the leaders in the field. But in your mid 20s you would like to have children, so you do, and you lose your place in the queue. You become discouraged by the desperate struggle to spread your energies, seldom earning enough to pay the

housekeepers, nannies, child care, schools and other professional helpers that are needed. Science may be even more difficult than other careers - there are relatively few positions for scientists, pay is relatively low, competition is keen, and it is difficult to compete when you take accouchement leave.

I think women themselves are the real reasons why our society developed as male-dominated and with a structure that appears to obstruct general female participation in activities usually pursued by men. Women created the patriarchy. We are not powerless, we have the vote, but we don't seem to influence the agendas that will effect our aspirations. Women must seek social and economic patterns that ensure effective female participation in the workplace - and this includes accommodating special emotional as well as physical needs that affect the welfare of children and families. The search for those patterns must begin with self-knowledge - knowing what the needs are; and making sure that men do too.

The extrasomatic selective pressures that caused the evolution of our innate physiological and behaviour systems, and intelligence, are now largely removed. Instead we are desperately dependent on that intelligence - to add to the inherited knowledge about ourselves and our environment, and to understand the new technologies that could wipe us off the planet if not used wisely. It is our history, both evolutionary and cultural, that has made us what we are - different from men - and we need to put that difference to work to complement the male contribution to knowledge and to the uses that can and should be made of it. Women must be in the workforce to add diversity to the way things are done, the questions that are asked, and the ways to set about answering them. We must base our social and cultural values, and our laws that enshrine those values, on an understanding of our own individual and biological needs and the needs of our communities.

So "Vive la Difference", and, especially, you can be a feminist and dress like that!

This is an edited version of a talk given to the Lyceum Club, Brisbane, at a meeting to celebrate the 82nd anniversary of its founding. WISENET invites readers to comment on the issues raised above.

ANN WOOLCOCK

*Christine
Jenkins*

Respiratory medicine lost one of its greats on Saturday 17th February, when Professor Ann Woolcock died from breast cancer, aged 62. To the very last days of her life, Ann pursued the goals of her life with the energy and dedication which had been the hallmark of her personality and professional career. She was a provocative and original thinker whose life in science and academic medicine left an unrivalled legacy which will continue to inspire respiratory scientists and clinicians. Her ability to marry clinical medicine and research was exceptional and led naturally to increasing demands on her time as a speaker and contributor to scientific and clinical meetings nationally and internationally. Despite her frantic schedule, she never gave up clinical medicine and she was still doing her outpatients clinics in the last month of her life, farewelling some of the patients she had looked after for nearly 30 years. She firmly held the view that she could only ask the right questions in her research, if she continued to be involved in clinical medicine. She would often come to her clinic straight off an early morning plane.

Ann Woolcock was born in Reynella, SA, the eldest of four children, and completed her University education at the University of Adelaide. She began her distinguished career in research at Sydney University after her residency in Adelaide and Broken Hill. While completing her Doctor of Medicine degree she set up a Respiratory Laboratory in the Page Chest Pavilion at Royal Prince Alfred Hospital, which was a natural evolution of her research, bringing science to clinical respiratory medicine. Ann's work in respiratory physiology completely revised the prevailing understanding of mechanisms and consequences of acute asthma. In 1968 she married Ruthven Blackburn, professor of medicine, Sydney University. She then completed physician training and her sons Simon and Angus were born.

Although she undertook further highly influential work on the physiology of airway obstruction in acute asthma, Ann's research interests broadened, epidemiology

becoming a more demanding interest. Her early studies of allergy and asthma in the New Guinea Highlands were followed by studies in schoolchildren in Sydney and rural NSW. These formed the basis of ongoing research looking at the relationships between the development of sensitivity to allergens, airway responsiveness and the development and severity of clinical asthma in children. She became a driving force in asthma epidemiology and this work brought her international distinction and respect. It also emphasised the relevance of population health studies to the practice of clinical medicine and she never lost an opportunity to make population health relevant to the individual.

Many asthma epidemiology projects around Australia were conceived by Ann and flourished under her leadership. In 1977 she was appointed Head of the Department of Respiratory Medicine at Royal Prince Alfred Hospital, and in 1984 she was given a personal chair as Professor of Respiratory Medicine, University of Sydney. This was at a time when women had negligible representation in the upper echelons of tertiary teaching, research and administration, and only 3% of all professors in Australian Universities were women. In 1992, she was elected Fellow of the Australian Academy of Science, the first practising female clinician to earn this distinction.

Ann was committed to promoting respiratory health in the Asia-Pacific region, and was active on many national and international scientific and public health committees. From this vantage point she was able to see the big picture and constantly exhorted others to do the same. She initiated Asthma Research Days in Sydney, when she worked hard to bring people together in research, to discuss their ideas, to encourage collaboration and to share scientific skills. On these days the white board was covered with research ideas and she engaged people in spirited debate over important clinical and research questions. She fostered the research and careers of many Ph.D. students she supervised, among whom are Stephen Leeder, now Dean of the Faculty of Medicine at Sydney University and



Professors Iven Young and Norbert Berend. She was particularly supportive of women in science and medicine. She established the Institute of Respiratory Medicine at RPAH with a vision for co-operative, integrated research and she was dedicated to helping people work together in a team to achieve common research goals. Her presence could be daunting, as tact was not a strong point and she could not hide her exasperation if an argument was poorly supported or work was half hearted. Consistent with this, she gave support and respect to all those who applied themselves with diligence and enthusiasm. She cared greatly for the people in her department and research groups, and was always keen to bring people together to party and celebrate important events.

Ann was acknowledged as one of the world's leading experts in asthma. Characteristic of her addresses to widely varying audiences was

both the promotion of scientific knowledge and a bold questioning of conventional wisdom. There was a substantial element of the iconoclast in her and she was never afraid of sticking her neck out. She had a reputation, well earned, for challenging the party line and for provoking others to think beyond accepted truths.

Ann Woolcock was the recipient of many distinguished awards in Australia and overseas and was made an officer of the Order of Australia in 1989. She probably underestimated the affection so many held for her, the wealth of knowledge she left with us, and the very high regard in which she was held. Her dedication and advocacy, her feisty spirit and vision are unforgettable.

This is an edited version of the obituary which appeared in the Sydney Morning Herald and is reproduced with permission.

MENTORING AND WOMEN IN SCIENCE

*Sue Key
Department of
Earth Sciences
University of
Queensland*

When I began my career in science I naively assumed that I would be selected for jobs on the basis of my skills and merit and that gender would never be an issue. In the two years since I graduated with my PhD, I have seen many of my contemporary graduates succeed and fail within the academic system. In that time I have formed a growing respect for the importance of mentoring in molding one's academic career. Unfortunately, it is not the type of mentoring that is readily available to most students, particularly women. In my experience it is the fortunate few graduates blessed with generous and well-connected PhD supervisors who have fared best in the academic system. These students are steadily guided down the



best path to academic success, they are introduced to all the right people, they are invited to help organize conferences and edit special journal editions. Their supervisors unashamedly use their contacts to actively promote

their student's career prospects. In such a competitive system, there is little opportunity for students with distant, indifferent, jealous or threatened supervisors to succeed. Even fewer opportunities exist for female students to succeed.

As a female PhD student in a traditionally male-dominated science I was surprised to find that more than half of my 37 fellow students were women. We studied in an establishment where, of about 30 members of faculty, there was not a single tenured woman on academic staff. The women on the fringes of the faculty attempted to form a support group but the attempt was widely ridiculed. Our meetings were kept private to avoid the constant carping from our male colleagues about "secret women's business". "Why isn't there a men's mentoring group," many of the men wanted to know. Why indeed? There was certainly nothing stopping one from being created, but of course the reason that women's mentoring groups exist is the knowledge that most men already operate within a mentor-driven system, a lot of them just don't realize it.

There are many opinions as to why, in a field where 50% of the graduates are women, so few

women are able to obtain even junior academic positions after completion of their PhDs. I'll list the most common reasons offered by my colleagues: women have different goals; women want to have babies; women are not competitive enough. One of my female mentors suggested to me that, "as a woman, you can't be serious about an academic career and be married". Well why did they accept me as a PhD student then? Let us assume for a moment that women, even married women, are actually as driven, talented and intelligent as their male colleagues, as evidenced by their graduation with PhDs. Why then are so many lost to their field of choice after such high level training? Perhaps the current PhD process fails to offer adequate mentoring to women to allow them to advance in the academic system.

One successful female academic I know, now in the States, has suffered from being one of the rare women on staff in her department. She is the universal mentor to all female students. From career counselor to sexual harassment officer she is expected to provide a universal panacea for all women struggling to get ahead in the academic system. Why are so few men fulfilling such roles? Naturally men feel more comfortable mentoring other men and there is the legitimate fear of sexual harassment complaints when men try to mentor women. These factors make it difficult for men to treat female students in the same way they would treat their male students. Whether it is deliberate or not this often leads to women being isolated and excluded from the mentoring process that nurtures male academics in a male-dominated system.

When I moved to a new university for my (self-generated) post-doc, I was excited to learn that a new women's mentoring system had been adopted. I was paired with a more experienced female academic from another science faculty. Although we had some things in common (difficult supervisors) our research was completely unrelated. We moved in entirely different scientific circles and there was zero chance of any collaboration. Even within the university we mixed with different people as we were from separate faculties. For this reason I found that although my mentor was often a good emotional support she could do little for me in the way of enhancing my career prospects. This is what you need from a mentor. Does this sound very mercenary? Well, how do you think most people get their jobs? A good mentor needs to be somebody in your field of expertise who has both power and respect, someone who knows the people who

might hire you and someone who is not averse to using their contacts to help you. There is no room in mentoring for people who feel threatened by their younger colleagues or judgmental, "well, I did it the hard way - why shouldn't everyone else?".

Is affirmative action necessary to improve the number of female academics in the sciences? From my experience such an approach closes more doors for women than it opens. My last research institution was recently forced, after forty years, to appoint a female academic to their all-male domain. The appointment, though rigorously opposed, was eventually advertised. In international journals the institution openly proclaimed in a bold header that they were seeking "Women __scientists". And went on to explain this extraordinary statement in the next line, "To address a gender imbalance at the XX research institution...". While the advertisement may have been honest, it was guaranteed to alienate most academic women. Who would want to apply for a position where you would clearly be seen as the token woman on staff?

In academia it is not uncommon for positions to be created for specific individuals. Why is it so difficult to recruit promising female academics to staff before it becomes a gender equity issue? "We never have any suitably qualified women apply for positions" was a frequent comment I heard as a PhD student. One wonders what the definition of "suitably qualified" is when my old institution has been churning out almost even numbers of male and female PhD graduates for the past several years. Perhaps the academics currently in power need to rethink how they select and groom their post-PhD staff if they really want to see "suitably qualified" women applying for such positions. A good start would be to change the culture of all research institutions to include real mentoring for female students by their PhD supervisors not by fringe substitute groups. I believe there is a place for women's mentoring groups as they provide a useful support mechanism but a support group cannot recommend you for research positions or write you glowing recommendations – that is the job of a PhD supervisor. Either there is a significant problem with the way the current academic system is promoting women within its ranks or we are left with the proposition that women PhD graduates are somehow "inferior" to their male colleagues. How else can the gender imbalance in science faculties in the current university system be explained?

AGM REPORT

Report of WISENET Annual General Meeting 2001

The AGM was held at 6:00pm on Monday 7th April 2001 at Search and Discover, the Australian Museum, Sydney. The facilitator was Rosemary Sutton, National Convenor.

Present: Rosemary Sutton, Julie Evans, Anne Skates, Margaret Hartley, Julianne Crowley, Rebecca Mason and Diana Temple braved the wet, traffic-snarled Sydney conditions.

Apologies: Sarah Miller, Doreen Clark, Leeta Caiger, Nicola Elliott, Carrie Bengston, Elizabeth Elenius, Barbara Goldflam, Judith Pollard, Andrea McAdam, Annette Gough, Sue Turner, Pru Bonham

The minutes of the 2000 AGM were accepted.

Reports were received on Activities and Projects (Rosemary Sutton) and the Journal and Membership (Julie Evans). A summary of the financial position of WISENET was provided. The treasurer was absent overseas and the Auditor had not returned the financial statement in time for the meeting. Members present accepted the summary and resolved that the completed Financial Report would be presented to members for ratification as soon as possible (See page 21-22).

Under General Business, discussions were held about the composition of the Central Link Team and membership. Elections for the Central Link Team were not possible as there were no nominations for some of the positions, most notably the National Convenor. The dispiriting problem will be discussed at a future meeting.

Following on from some successful events in 2000, it was also suggested that WISENET continue and seek out new collaborations with other women's groups, eg. Women in Medicine, Engineering, Physics and Water.

Before adjourning for a well-earned dinner, the meeting concluded with a talk by Julie Evans, journal editor and meteorologist with

the Bureau of Meteorology, whose topic was Olympic Weather.

1. Report Of Activities, 2000.

Last year was a successful one for WISENET with a number of events in Sydney and the revival of Canberra and Melbourne local groups under the leadership and enthusiasm of Anna Robinson and Jo O'Neil. It is fair to say however that recently both Julie Evans and I have flagged of late with both of us going from part-time to full-time employment and moving to new positions. Julianne Crowley took a well-deserved break from membership secretary to finish her PhD. Fortunately, we have had lots of support from Margaret Hartley and Diana Temple

I still believe that the main challenge facing WISENET with so many members busy with work and family and/or other commitments is to find ways to share the load so that we can all do a bit and achieve a lot!

Roundtables

There is still a need to replace the defunct Round Table organised by Office of Status of Women, and the OSW grant funding. The government has replaced these meetings, formerly of about 50 women's non-government organisations, with a more exclusive arrangement, and gave funding to just four national secretariats, limiting easy political access for us. Networking with other women's NGOs however can be effectively carried out through the Pamela's list, an email network run by the National Coalition for Women's Justice. I have had to resign from it to limit my emails, but Janet Salisbury and Jo O'Neil represent WISENET on it. The ALP women's caucus has held some good meetings which WISENET has attended. I attended a budget breakfast last August at Parliament House, meeting up with two of our members there, and Jo and Anna attended meetings with Carmen Lawrence.

Affiliations

We are affiliated with FASTS which provides scope for representing issues of interest to women and having Sue Serjeantson as President of FASTS and Jan Thomas as Vice

President was a definite plus. We congratulate Sue for her recent switch to a position with the Academy of Sciences. For the past two years FASTS has organised a Science Meets Parliament session, and plans to also run one this year. The date has been now confirmed as 21st and 22nd of August.

We are also affiliated with WIP and several of us attended the Women into Politics dinner in Sydney - another way of making connections and better for being non-partisan. The WIP dinner is an enjoyable night out, with women politicians from Liberal, Labor and Democrat parties giving entertaining brief speeches.

Grants

Unfortunately, we were unsuccessful in a grant application for a Science and Technology Awareness Project. The proposed project aimed to encourage girls and women in rural and regional Australia to pursue science studies. Our thanks go to Sarah Miller and Jean Weber for their efforts on the grant.

Web site

Jean Weber has once again giving very generously of her time to keep the site updated and put more of previously published journal material on the web. She has also given it a fresh new look, while still keeping the download times to a minimum for those members paying STD rates or with slower connections and older PCs. The WISENET website continues to be hosted at the University of Sydney, and we thank both the University particularly Graham Johnson for this. Does anyone have time to put some effort into publicising the website, getting it into the search engines, and so on? Jean Weber could offer advice on how to go about this.

Networking And Communication with Members

We have continued to produce the WISENET Journal three times a year, since it provides the major point of contact with many members, though increasingly we also use email and the web site. Often we receive notice of interesting talks which are disseminated via email, for example from FASTS, or in Sydney, from the NSW branch of the Australian Science communicators. Do keep us up-to-date with your email address.

WAIS 2

Next year we hope to have the Second Women Achieving in Science conference in

Sydney probably in August. Dr Pauline Gallagher (CSIRO-SA) is the prime organiser, in conjunction with Dr Julie Wells (NTEU) and Ms Jan Thomas (FASTS) and WISENET.

Report on Sydney Activities

This last year, we were able to share the load of the Sydney Convenor position by different members of the WISENET Sydney group each organising an event.

“Science Is For Girls”

Leeta Caiger of WISENET and the Australian Water association organised the speakers for a Science Careers event run on both on May 15th and 16th, working together with the Powerhouse Museum who provided the venue, publicity to schools and general co-ordination. The theme chosen for the “Science is for Girls” program was “Eternal Life” Following a talk from the keynote speaker, panel speakers gave short presentations and then answered questions from the girls. It was well received and appreciated by the audiences and we would like to thank all those involved.

Memory Enhancing drugs - The issues!

Julie Crowley and Diana Temple together with ANZAAS and North Sydney Boys High School organised an evening panel discussion on memory enhancing drugs. A report together with web site references was written by Julie in WISENET J. 55:22 (2000).

WISENET/ RACI Breakfast

In September, Doreen Clark invited WISENET and RACI members to her home for breakfast on a lovely Saturday morning. We enjoyed the cereals, toasts croissants and fruit platters and a great networking event.

Trivial Matters!

In November over 80 scientists, engineers and water industry people met for a fundraiser trivia night at the Occidental Hotel in Sydney. The evening was coordinated by the Dr Mehreen Faruqi (NSW Convenor Women in Water), Ilsa Kuiper (Women in Engineering) and Leeta Caiger (WIW and WISENET). The aims were to bring together a cross section of the water and science industry for an enjoyable evening and to raise some money for the Bega Women's Refuge. The evening started in a civilised fashion, with quiet and orderly behaviour from the participants and easy questions from the MC. As the night progressed, alcohol

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flowed and the questions become harder with stiff competition between tables on the points table. WISENET did very well using a combination of our collective expertise in "trivia" and judicious "bribing" of the hostesses and MC. Over one thousand dollars was raised and it was such a success we are hoping for another Trivia night in November this year.

WISENET Christmas party

A smaller event than usual (it was hard to find an evening that suited most people) but just as enjoyable with Margaret Hartley spoiling a group of eight or so of us with lovely food on balmy evening on her verandah overlooking Wattle Bay.

JOURNAL Packaging

Julie Evans provided the venue each time for packaging the Journals. A glass of wine and some nibbles together with the pleasant company make these evenings another opportunity to enjoy the company of likeminded women.

Canberra Activities

The Canberra group got together for a second lunch on Wed 18th of April with 6 members attending. They've decided to make it a regular event. WISENET members who happen to be in Canberra are welcome to join them at the Street Theatre, 1.00 pm on Wednesday 13th June, 15th August ,17th October. An end of year function will probably be held on 12 December (Christmas).

Melbourne Activities

Jo O'Neil has been emailing Melbourne members about their preferences for meet-

ings. She needs a good venue and has not yet had much response. Sue Lewis has offered support.

Rosemary Sutton

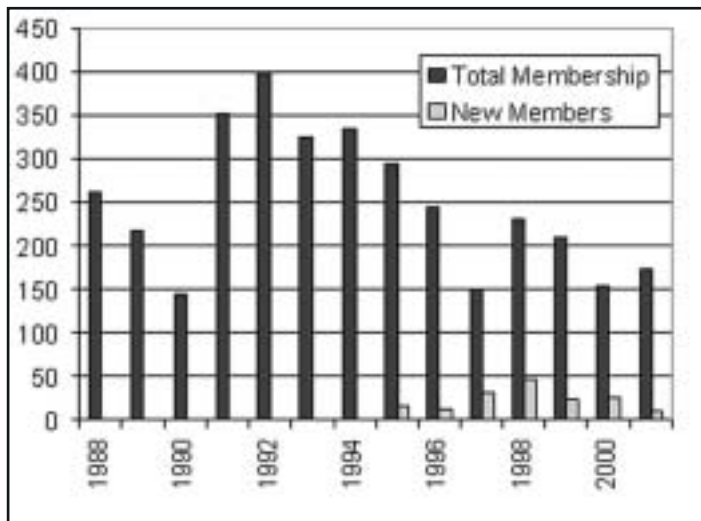
2. Membership Report

Our membership total currently stands at 172, comprising:

Individuals	106
Organizations	21
Retired	18
Complimentary	9
Students	8
Overseas	4
Honorary	3
Unwaged	3
Total	172

In past years WISENET has tended to carry non-financial members for several years, but we have now decided to be more ruthless in our pruning of the database. Final reminders have recently been sent our to members still not financial for 2001 and the remaining 78 non-financial members who will soon be removed.

Our membership has been dropping in recent years. The graph shows the history of the membership, based on reports by Diana Temple, Carrie Bengston and Julie Crowley. In some years, the total numbers have been estimated from subscriptions received. Prior to 1991 membership was not renewed annually so the totals are less reliable. This downward trend is a concern but in the past three years there have been 95 new members and an additional 10 new members so far this year.



We need to raise the profile of WISENET in order to attract more members. The forthcoming WAIS conference in Sydney will help but we need to discuss other strategies as well.

We relying more and more on emails to communicate with members and currently 134 of our members have provided email addresses. We urge everyone to let us know their email address and keep us up to date with any changes.

In 2000, the maintenance of the membership database was the work of Julianne Crowley, who is currently preoccupied with writing up her PhD. Margaret Hartley has been handling the mail and writing all the receipts. Thanks are due to both Julianne and Margaret for all their work.

Julie Evans

3. Journal Report

In 2000, the three editions of the journal originated in different cities:

Journal 53 was put together by the Wollongong team comprising Wendy Russell, Sharon Robinson, Lesley Head and Brian Martin and was dedicated to the memory Toni O'Neill.

Journal 54 was a special edition devoted to the Women Achieving in Science Conference (WAIS), held in Melbourne in November 1999. Rosemary Sutton, Julie Evans and Diana Temple assembled the papers from the conference in Sydney, with the help of Pauline Gallagher from the CSIRO Staff Association. Additional funding from the CSIRO Staff Association and the NTEU, enabled us to print copies to send to all conference participants and members of the NTEU as well as have a coloured cover.

J55, the first WA Edition, was edited by Tricia Gardiner in Perth and had a special focus on activities and events in Western Australia.

WISENET has been approached by the Jessie Street National Women's Library requesting that we provide them with some of our back copies so that their collection of the Journal could be complete. We were pleased to be able to fill all the gaps.

According to Kinetica there are only two libraries which hold a complete set – Jessie Street in Sydney and the Australian National Library in Canberra. It is also curious to note that Journals 1-22 are listed as WISENET: journal of the Women in Science Enquiry Network [ISSN – 0815-0753] and Journal 23-present as WISENET Journal / Women in Science Enquiry Network [ISSN-1440-0006]. This change coincides with a marked change in the format of the journal.

Despite the different origins of three journals, the layouts were all handled by Andrew Netherwood in Wollongong and WISENET would like to thank Andrew for his creative input and continued support of the journal.

Julie Evans

WOMEN IN SCIENCE ENQUIRY NETWORK		
WISENET INCORPORATED		
INCOME & EXPENDITURE ACCOUNT		
FOR THE YEAR 1 JANUARY 2000 TO 31 DECEMBER 2000		
<u>ACCUMULATED FUNDS</u>	<u>1999</u>	<u>2000</u>
Balance as at 31st December 2000	6756	7800
Surplus / Deficit - General Account	1046	-2457
Surplus - Grant Account	-2	19
	<u>7800</u>	<u>5362</u>
This is represented by:		
<u>CURRENT ASSETS</u>		
Commonwealth Bank Society Cheque Account General - A/C 00904637	7816	5357
Commonwealth Bank Cheque Account - Grant A/C 10027272	-16	5
	<u>7800</u>	<u>5362</u>

ACT- WISENET

*Anna
Robinson*

In the ACT, WISENET lunches have resumed. Members and friends meet for a get-together on a Wednesday, every two months, at 1.00 pm at *As You Like It*, the Street Theatre Café near the ANU. The lunches are proving to be a congenial format for networking, exchanging information and keeping in touch with updates on a wide range of social, political, financial and professional issues.

Particular points of interest under discussion:

- Dealing with breaks in professional development. With the changing focus from tenured to contractual employment, our expensive specialised training and education is not lost and often a break spent in another pursuit can provide renewed impetus to a jaded career path. How can we get this across to the scientific community?
- Breaking new ground by offering scientific placements for a specific project rather than a professional position. e.g. A lot of women could fit in short term projects around family demands if the project could be done some evenings and weekends instead of in business hours. Many scientists work such hours anyway – so why not? Because grants don't cover such a scheme. So why don't we consider lobbying the funding bodies to see if this could be changed?
- Sexual harassment problems. (still, unfortunately) Perhaps it is time to deal with sexuality in the work-place in a different way. Can the men help?
- Child-care – its cost vs. value
- Assertiveness. There seems to be a dichotomy that while men can be bad-tempered, demanding and overbearing which is acceptable in the workplace, a woman is considered 'difficult' or 'hard' unless she is pliant and compliant. Is it time to insist on more professional conduct by ALL towards ALL at ALL times – women and men - some people will definitely need to be retrained!

W W W.
science.org.au
/scientists/

- Introduction to the Academy of Science website: www.science.org.au/scientists Lots of interesting things there for women scientists – please do have a look.

In between we share a lot of laughs about how we want to stay in science because we love it despite all the setbacks...and about where our projects lead...and how we can be more constructive and communicative.

Apart from forming new friendships, some good suggestions have also been proposed.

(a) Could WISENET start applying for funds to send newly qualified or qualifying scientific women to conferences or meetings that have more than just a scientific focus; ie to provide the opportunity to engage in a broader arena earlier in their careers. Encourage a voice to be heard in that cacophony of decision making that is politics and policy! Science meets Parliament Day for example.

(b) Continue representation at as many public fora as possible. My own participation at the Australian Society for Medical Research Expo at the Canberra Centre during Australian Medical Research Week proved that the public really loves and supports scientific achievement and advancement. However many people would like to know more about it, have more consultation and involvement – but without necessarily having to be a scientist first.

There's clearly a place for WISENET here in the ACT and members are making time in their busy schedules to get together. If you are in town, please do come along. Our next lunch is planned for August 15th and I would be happy to provide further details on request.

email: anna.robinson@bigpond.com

Anna Robinson is the ACT WISENET Convener.

VICTORIAN WISENET

Jo O'Neil An informal meeting of Victorian WISENET members was held at Melbourne University on June 18 with the aim of providing feedback about the type of activities members would like to see happen in Victoria.

The issues discussed included:

- WISENET's role
- Difficulties facing women in science workforce, including students and isolated members



Back Row (L-R): Kate Loveland (by invitation), Jan Thomas, Jo O'Neil, Sandra Rees (who provided the venue and the wine). Front Row: Andrea McAdam, Frances Separovic, Katherine Legge. Photo by Kate Hawkins.

- Value of journal - generally positive (Thank you! ... Editorial Team)
- Harassment in the workforce
- What is the definition of "Achievement in Science"- not all want to be Queen Bees.

Suggestions for improvement

- A WISENET email bulletin board
- Activities that have objective, documentable achievements e.g. Women Achieving in Science Conference (WAIS), Monash AA publications
- A WISENET sponsored mentoring network involving business and industry figures as well as universities.
- Joint activities with other groups, for example, WAVE (Women in Adult and Vocational Education) and WICs (Australian Federation of University Women).

Follow up:

The mentoring scheme was suggested to the Australian Federation of University Women (AFUW) who responded enthusiastically. Margaret James, president of the Victorian Branch of AFUW, also made the point that any mentoring scheme would need funding to pay someone to run it in a professional way.

Women's Health

Wisenet (NSW) is planning an informal session discussing women's health issues at the University of Sydney.

Speakers:

- Joanna McMillan - nutritional guidelines
- Dr Bronwyn Crawford - hormone replacement therapy
- Dr Meloni Muir - phytoestrogens
- Dr Rebecca Mason - bone turnover and osteoporosis

Further details will be available soon, but if anyone has specific questions they would like to meeting to address, email them to rebeccam@physiol.usyd.edu.au.

WOMEN'S ROUNDTABLE MEETINGS WITH THE HON DR CARMEN LAWRENCE

*Anna
Robinson*

Canberra: February 27 at Parliament House

Carolann Wolfgang and Anna Robinson attended this Meeting on behalf of WISENET members. The meeting was well attended, with over 35 representatives from different women's groups present.

Unfortunately, the meeting was extremely depressing comprising three long hours of dissent and discontent. It seemed unbelievable that this state of affairs can exist in a country as affluent and progressive as Australia.

Some very serious issues were raised such as the increased incidence of physical and verbal abuse towards (predominantly female) nurses, growing isolation of women in rural areas, decreased funding and more complex application procedures for women's self-help groups (Women with Disabilities, Catholic Women's Association, Single Mothers' Association, Women's Electoral Lobby and so many more) and the effect this has on the wider community. The WISENET presentation focussed on improving the professional image and salaries of female scientists, taking less than six minutes.

Although professional advancement seemed a low-key issue compared to some others, it is important to lobby for the whole spectrum of needs – not just those of the socially or emotionally disadvantaged. But the question is arising now as to whether these are any longer specifically 'women's issues'? Many relate to the whole community and seem more relevant to workplace agreements, social reforms and politically motivated change. In responding to the Office of the Status of Women invitation, another question arises: are women converting societal problems into redundant gender issues because that is the context in which we are practised lobbyists and through which we have readier access to Government policy makers. Is it time for us to capitalise on that history and experience and start initiating policies that promote WISENET members as community representatives, to be consulted in broader higher level discussions?

Melbourne: March 2001

Jo O'Neil

There was a huge group of women representing a wide range of NGOs - 60 plus people in the room. Given the two-hour timeframe, each spokesperson had only a minute or two to put

forward their organisation's issues. It appeared that the meeting in Melbourne was much larger than originally envisaged, and much larger than earlier meetings including the one in Canberra.

There was unanimous agreement for the reinstatement of the OSW and the need for advancing family friendly workplaces. Issues relating to "trafficking in women" were highlighted given some serious recent issues in this context in Victoria.

I happened to sit near the two reps from the AFUW, Margaret James and Jenny Strauss, and a couple of issues they raised included ones that I wished to raise, e.g. the casualisation of the workforce. This impacts directly on access to maternity/parental leave and other "family friendly policies". Interestingly this was followed up by a young woman representing Women in Chemistry, who gave her own case history which indicated that since gaining her PhD she had never had any employment other than contract short term.

There were many common issues raised by the groups, and this reinforcement was quite effective, I thought. A number of similarly relevant points were also made by the young woman from the National Union of Students, who also pointed out an unduly high attrition rate of young women from tertiary education, perhaps related to student income support - or rather lack thereof.

Funding issues were discussed, with the suggestion from CL that it perhaps should not be for specific projects, but rather for infrastructure including access to communications. CL put forward the idea that there might be "peer review" for funding and that groups with common interests might put forward joint requests for funding.

One group represented there, who were particularly interested in possible discussions with WISENET, was WAVE (Women in Adult and Vocational Education). Their issues included childcare, foundation education for adults (38% adults have not completed secondary education), educational outcomes for girls (low rate of return to education amongst early school leaving girls) and career paths for women teachers in TAFE (sessional and short term contacts).

WOMEN S CHARTER FOR POLITICAL REFORM

*Summary by
Diana
Temple*

This is described as “a charter for political equality for women and for good government for all Australian citizens”. It has been produced by Women into Politics (WIP), a coalition of women’s organisations of which WISENET is a part. The Charter, written by Joan Bielski who was largely responsible for the founding of WIP, was launched in Federal Parliament on 27 June by Senator Natasha Stott Despoja with the support of Labor frontbencher Carmel Lawrence and Liberal MP Kathy Sullivan. It is appropriate that support of the Charter is bipartisan, as WIP is apolitical in its aims to encourage more women into politics at all levels. The Charter, described in the Sun-Herald as “urging women to play a less macho role in national politics”, covers many items. Headings are:

Political equality for women. This requires legal amendments, starting with the Commonwealth Sex and Race Discrimination Acts, and requires political parties to nominate and select equal numbers of women and men for winnable (+ 5% margin) seats.

Regulating the influence of money in politics. The Australian Electoral Commission should oversee the financial management and organisation processes of political parties.

Changing the parliamentary system of remuneration and entitlements. Members’ salary, superannuation and allowances as well as

party donations and abuses should be overseen by an independent statutory commission.

Changing the system of parliamentary representation. Proportional representation should be maintained as it benefits women’s representation; terms in all lower house parliaments should be fixed at 4 years and members should be limited to three consecutive terms. Parliamentary practices should be reformed to be more family friendly with respect to child-care and shorter sitting hours, and the level of behaviour and discourse should be improved.

The Bill of Rights debate - its relevance to equality for women. Government should legislate a Bill of Rights which encompasses all UN instruments and international conventions to cover all aspects of equality for women, the implementation of which should be overseen by the Human Rights and Equal Opportunity Commission.

Peoples’ Conventions - public participation in democracy. Such conventions should be held during every second term of parliament, or more frequently in special cases such as the republic debate, for the purpose of recommending changes to the Federal Government. Delegates could be any registered voter, excluding serving politicians, and a two-thirds majority should require a referral to parliament for action.

*W W W.
womenintopolitics
.org
.au*



WOMEN INTO POLITICS INC.

A coalition of women’s organisations and individual women working towards dramatically increasing the numbers of women at all levels of public life and towards making our public institutions more representative and democratic

Some leaders are born women!

LETTERS

Dear Wisenet

A warm congratulations on Vol 56 of the Journal. In 1984, who could have predicted that when we sat on our living room floor in Canberra, and the daring foundation group - including Ann Moyal, Christa Critchley, Brian Martin, Mark Diesendorf - took up my half-joking suggestion that we start a journal, rather than a newsletter. Well, it has worked, and the vigour in the latest issue is inspiring.

With best wishes

Margarita Bowen
 WISENET founding convener.
 16 May 2001

Dear Wisenet,

Just a quick note to say thank you to the Julies and Rosemary and others that have corresponded by email - I have been inundated by email and activities so much that unfortunately haven't had time contribute as a member or go to everything but it has really "invigorated" my interest in WISENET even though I am "disenfranchised" from science.

Regards

Gabriella Young.

The membership form can also be printed from the WISENET Web Site at: <http://www.usyd.edu.au/wisenet/>

APPLICATION FOR WISENET MEMBERSHIP		Send to: WISENET Inc. P O Box 647 Glebe, NSW 2037	
		ABN 56 210 013 744	
Name:	_____		
Address:	_____		
Home Ph: ()	_____	Work Ph: ()	_____
Fax number: ()	_____	E-mail:	_____
Occupation/ Workplace:	_____		
Education/Science background:	_____		
Activities /Research /Interests: (Attach additional details if you wish)	_____		
I agree to support the stated objectives of WISENET. (see inside front cover) Signature: _____			
Annual membership fee (includes Journal) - effective 1st January 2001			
Individual: \$35,	Membership Fee: \$	_____	
Institution: \$40,	Donation: \$	_____	
Student/Unwaged: \$15,			
Overseas: \$40	I enclose a cheque payable to WISENET for \$ _____		

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